A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

Incorporating *International Commerce*

MAY 17, 1971

Commerce Today

Coming Developments in Business and Technology

'Zeroing In' On The Big Storms

FROM THE
SECRETARY

Improve Business Relations With Public

American enterprise faces many problems, present and potential, in the areas of legislation, regulation and litigation—all of which seem to stem increasingly from a fundamental condition that troubles many people in government as well as in business:

There is a hardening public attitude today toward American enterprise. The economic environment has become affected by a growing public distaste for various products, practices, and services of U.S. business.

This wave of critical public opinion is by no means universal. But it is vociferous and it is growing. It could be ignored only foolishly by business or government.

Relations

To counteract some of its adversities, and to offset the developing trends, it appears to be time for U.S. business to increase its efforts to improve its relations with the public. It must tell the story of its own effective performance.

In doing so it should heed the wisdom of two slogans in an old song:

1. Eliminate the negative. If it is true that 99 percent of all transactions give full satisfaction to the buyer, as we have reason to believe, then an effort should be directed at isolating the one percent and seeing that they conform.

2. Accentuate the positive. U.S. enterprise very proudly can compare American living standards with the rest of the world, to tell its story of how well it is performing, and to sell the superiority of the American system.

Examples

Industry should do a far better job in convincing the public of its efforts to cleanse the atmosphere and to help resolve its pollution problems.

It must give believable assurance to consumers that products are better and safer, that warranties are meaningful and services are helpful.

It must make the public aware that the charlatans, the malefactors and the quick-buck artists represent only an infinitesimal fringe of the business community, and that the preponderant majority of American business values consumer good-will and public trust above all else.

Contributions

Industry also must make the nation aware of its enormous contributions to help solve some of the most pressing social and economic problems, particularly involving the needs of our minority peoples and our cities.

Only business and industry can make the public fully aware of the fact that the good old days really were not so good, and that we have never been better off than we are today, thanks to American production and American commerce.

If the attitudes of the public at large are improved—and there is great justification that they should be—American business once again will find itself operating as a healthy, respected and vital part of our society.

Maurice H. Stans

Commerce Today

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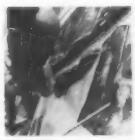
Tighter surveillance will be in effect this year as the government employs satellites, aircraft and computers to warn Atlantic and Gulf Coast residents of impending hurricanes.



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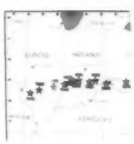

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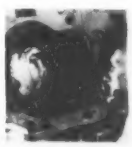

COVER: *Tracking a hurricane by radar is one of the important steps necessary to provide sufficient warning to coastal residents that one of the superstorms born at sea is headed their way. The 1971 Hurricane Watch will be in effect from June through November.*

U.S. DEPARTMENT OF COMMERCE

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ECONOMIC
HIGHLIGHTS

Rising Consumer Confidence Boosts Outlook

Economic Highlights is prepared by Dr. Harold C. Passer, Assistant Secretary for Economic Affairs, and is based on the latest economic indicators (see charts on adjoining page).

American consumers have been building a huge reservoir of purchasing power—and it's beginning to show up at the cash register.

Retail sales have been climbing since November. The upswing, which started with autos, has been spreading rapidly to other lines. Easter sales were very strong, sales of appliances and home furnishings have been picking up, and automobile sales have continued at a rate of 10 million cars per year.

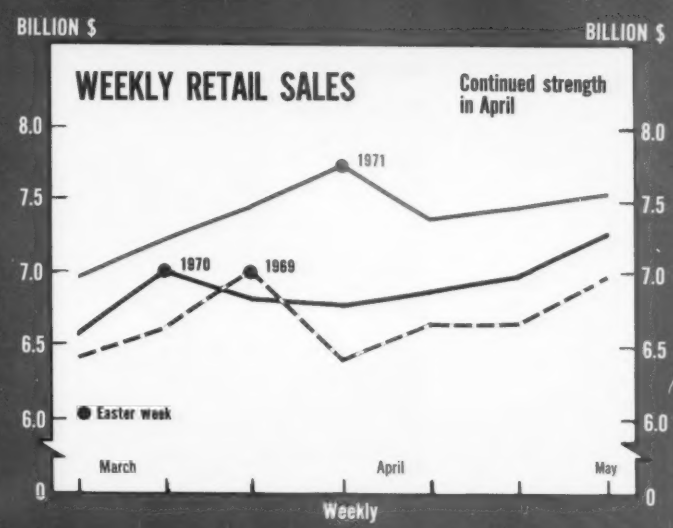
Over the past year, consumers have been saving a high percentage of their income. They are now in a position to augment their purchasing power by drawing on their past savings and by spending a larger proportion of their currently increasing incomes. A drop of one percentage point in the saving rate adds more than $7 billion per year to personal outlays. Evidence that consumers are loosening their pursestrings is found in the March increase in installment credit, which was the largest in 16 months.

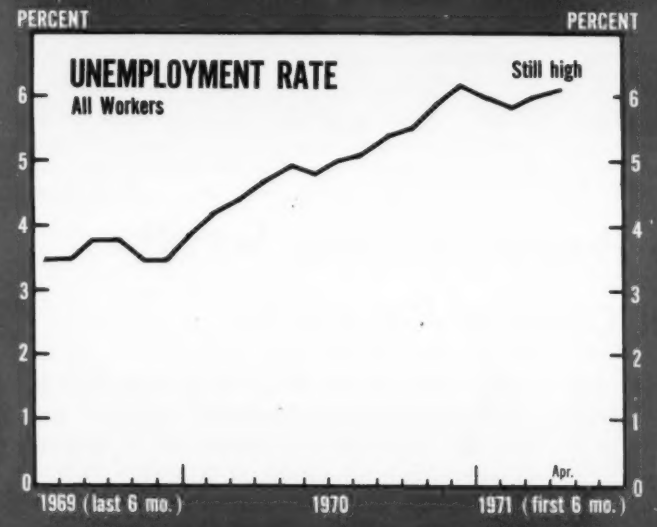
Recent private and Government surveys show increased consumer confidence and buying plans. There are several reasons for expecting further improvement:

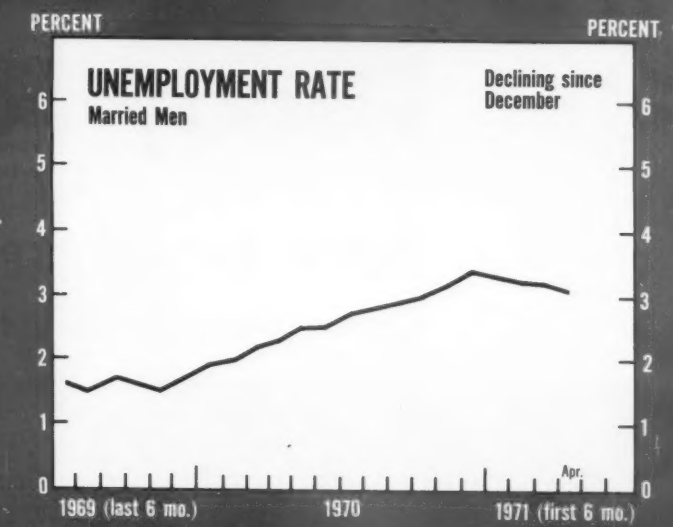
- Consumers generally save a relatively large part of their income during inflationary periods. Thus, with the inflationary pace slowing, they are likely to spend more freely.
- Unemployment, which increased sharply last year, has stabilized since December at around the 6 percent level and has declined in the key married-men category.
- A substantial rise in stock prices has increased the assets of millions of stockholders.
- There has been an increasing amount of good economic news lately. For example, the composite index of leading indicators has been rising for five consecutive months.

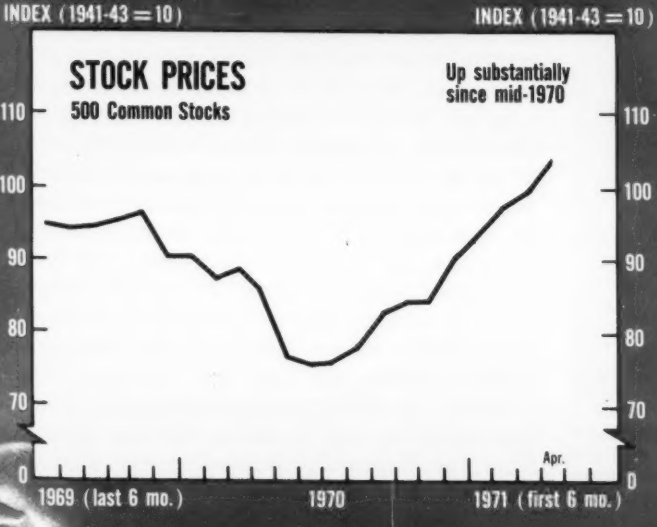
Thus, with savings high, incomes rising, and confidence mounting, consumers will be stepping up their spending and will be providing a hefty boost to the economy during the remainder of this year and into 1972.

Latest Indicators









...ly retail sales and stock prices are not seasonally adjusted.

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May 17, 1971

Vol. 1, No. 16

Hurricane Watchers Ready For '71 Season

Tighter Surveillance Prepared Using Satellites, Computers To Warn Coastal Residents

VIEW FROM A SATELLITE—*A meteorologist at the National Hurricane Center in Miami studies a mosaic of satellite pictures which provide important details necessary to forecast where a storm will strike.*

A satellite or some other source will spot in the warmer waters of the Atlantic a disturbance or area of squally clouds. A report is relayed immediately to the National Hurricane Center in Miami, Florida, an arm of Commerce's National Weather Service, and from that point on the men responsible for watching and tracking the Atlantic superstorms take over.

This year a tighter hurricane watch than ever before will be in effect. Advances have been made in recent years in spotting and tracking hurricanes by satellite, and in the use of computers to predict the height of the storm-driven tide. These valuable devices will be used more intensively this year, and old techniques will be refined. Steps have been taken to see that storm forecasting follows a prescribed routine so that the best procedures can be applied.

In full operation for the second successive year will be the equipment to receive pictures from the National Aeronautics and Space Administration's Applications Technology

THE MAD STORM'S BITE—*Gigantic waves tossed by a hurricane smash against a seawall. Such waves explain why an estimated nine out of ten hurricane victims are drowned. Computer programs are now in effect that can predict how high a storm will cause the water to rise at various points along a coast.*

Satellite (ATS3), which can photograph the ocean from a height of 22,300 miles. Dr. Robert H. Simpson, Director of the Hurricane Center, says: "The main contribution of the ATS3 satellite is that it gives us the big picture of what a hurricane or tropical storm is doing, including the surrounding environment which will determine whether the storm will grow or shrink or whether it will remain a benign seedling." The satellite can provide a photo of the same geographic area every 26 minutes. The pictures are displayed on a screen in still and movieloop form so that scientists can study both the shape and direction of the storms.

Also operational on the Gulf coast for the second year, and on the Atlantic Coast this year up to Long Island, will be a computer program that can predict how high a storm will cause the water to rise at various points along the coast. The program, which is complex and ingenious, is regarded as a major backstop for the forecaster in calculating the probable storm-driven tidal action, a highly important factor in saving lives. Dr. Simpson comments that about nine out of every ten hurricane victims are drowned.

The Atlantic Coast hurricane season runs

TURNING A BOARD INTO A PROJECTILE—*Hurricane winds that may gust at more than 200 miles per hour can cause freak incidents such as this Royal palm pierced by a 10-foot long pine board. In an average year, six Atlantic hurricanes will occur.*

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from June through November. The peak months for hurricanes are August, September and October. For the years 1886 through 1964, 374 Atlantic hurricanes were recorded, of which 314 occurred in these three months, more in September than in any other month. But when June arrives, there is a definite pickup in the hurricane potential, and some bad ones have struck in November. In 1970, Hurricane Alma came in May, one of only two May hurricanes in this century. Despite this ominous beginning, only three hurricanes developed in 1970, well below the average. The big one was Celia, which smashed the Corpus Christi Bay area in Texas.

The hurricane watchers began preparing for the 1971 hurricane season as soon as the 1970 season ended. As is customary, a Weather Service hurricane evaluation conference was held in December to rehash the problems and to try to determine solutions. In January, an interdepartmental conference of Government agencies concerned with hurricanes was held in Miami to review interdepartmental problems, discuss ideas, and formulate a plan of operations for the coming hurricane season. During the off season, the hurricane personnel worked to develop a uniform pattern of forecasting procedures. They made trips to numerous islands of the Caribbean to try to make sure that the island weather observation stations were in working order and ready. They held meetings with local people active in civil defense in the hurricane-frequented coastlines to ascertain whether their preparations, such as shelters, evacuation routes, and Red Cross aid centers, were adequate for the emergency that a hurricane would create.

There is a new set of feminine names for hurricanes during the 1971 season. Thus the public in coming months likely will be hearing about Arlene, Beth, Chloe, Doria, Edith, and also about Fern, Ginger, Heidi, Irene, and Janice if the number extends that far. Fair names of course cannot reduce the hurricane's fury, and neither can anything else in the present state of the art. However, the residents of the Atlantic and Gulf coasts may be assured that they have the best warning system that human ingenuity at this time can devise.

The main tools for tracking hurricanes are satellites, particularly the ATS3, aircraft and radar. A growing reliance now is on the ATS3. About 10 Air Force and Navy planes are made available for hurricane reconnaissance work. A radar "fence" covering the entire Atlantic and Gulf coastlines probes the atmosphere more than 200 miles over the sea. The National Hurricane Center also receives reports from about 50 weather observation stations in the Caribbean, and from ships at sea. Before the advent of the satellites and reconnaissance aircraft, the Hurricane Center relied on ships almost exclusively for spotting tropical disturbances, and ship reports still are highly important. Ships transmit weather reports every six hours, and they can take wind and temperature measurements.

The task of making forecasts about hurricanes involves a series of decisions, and in making these decisions the Hurricane Center weighs a body of information from various sources. Incidentally, Cuba continues to send weather observations as in the past, and hurricane advice is available to Cuba as formerly. Meteorologically speaking, it is business as usual with Cuba. Hurricane watchers recall an old saying that "weather has no politics." However, military hurricane recon-

CLEARING OUT—*When an area is warned that a hurricane is coming, previously organized local civil defense activities are triggered to evacuate and care for people in the storm's expected path.*

naissance aircraft cannot overfly Cuba. Research planes of the National Oceanic and Atmospheric Administration (NOAA) can fly over the island. Clearance is requested on an ad hoc basis and it is normally granted.

The spotting and surveillance of a hurricane begins well before it becomes a superstorm. As soon as a disturbance is spotted in the Atlantic tropical waters, the Hurricane Center sends a message to the chief air reconnaissance coordinator, who arranges to have an Air Force or Navy plane dispatched to the trouble area to check it out. The plane collects a variety of information valuable to the Hurricane Center, such as wind velocity, temperature, pressure, rainfall, humidity, and the state of the sea.

The chances are that the disturbance will remain a mere "seedling" or stretch of squally sea. Dr. Simpson says that on the average about 110 of these "seedlings" develop each year, and that only 10 or 11 become tropical storms, and still fewer hurricanes. However, a daily plane reconnaissance is made of the disturbance until it is clear what it will do.

Aircraft reconnaissance

If the disturbance develops into a tropical storm, it is a different story. A tropical storm is one with a wind velocity range of from 39 to 74 miles an hour. Aircraft reconnaissance is made of the storm every six hours. The aircraft, along with other sources, provides information as to the probable direction of the storm. Advisories are issued at six-hour intervals informing coastal areas about the storm and its apparent course. If the storm begins to approach the coast, intermediate bulletins are issued between the advisories. In any case, a girl's name is given the tropical storm to identify it and to have something to remember it by if it becomes a superstorm. If the wind velocity of the storm reaches 74 miles an hour, it is an authentic hurricane and big trouble is at hand.

Whenever a hurricane comes within an estimated 30 hours of a populated area, a watch is issued for certain areas of the coast where it may strike, although the exact point of landfall is not determined. The estimate of the storm's distance in terms of hours is based on its known movements up to the time. Residents of a broad range of coast are admonished to keep on the alert and to listen in on the six-hour advisories and the intermediate bulletins. Hurricanes move forward at an average speed of 15 miles an hour, although some are much faster—they have been known to advance at more than 50 miles an hour. When the hurricane is within 24 hours of the coast, a warning is broadcast. An effort is made to pinpoint the warning to the locality which hurricane trackers, through constant satellite-aircraft-radar surveillance, have concluded it will likely strike. The warning sets in motion the civil defense activities for which advance preparations have been made. For residents of the coastal areas likely to be flooded, the warning is an admonition to "get out."

WHERE SHALL IT STRIKE?—*When a hurricane threatens, forecasters decide from all available information where they think it will strike and dispatch a warning to the area believed to be in its path. Here, forecasters in the "storm room" of the National Hurricane Center prepare an advisory to be disseminated.*

In issuing hurricane advisories and warnings, the National Hurricane Center maintains contact with four regional Weather Service offices that transmit this information to areas for which they are responsible. These offices are located in San Juan, Puerto Rico, New Orleans, Washington, and Boston. The Hurricane Center serves as a local office for certain areas not covered by the four offices named.

Aside from the hurricane warning program, experimental efforts are under way to develop means by which the wind speed of hurricanes could be diminished. These efforts are called Project Stormfury, a NOAA-Navy hurricane research and modification program. Project Stormfury attempts on an ex-

perimental basis to reduce the force of hurricanes before they strike land by seeding them massively and repeatedly with silver iodide. The project also involves seeding of hurricane rainbands and rain sectors, and the continuation of experiments on lines of tropical clouds not associated with hurricanes.

While no actual experiments were conducted with hurricanes in 1970, Project Stormfury scientists did some cloud line experiments and other research work and made significant strides in thinking through their problem and how to deal with it. The scientists are inclined to believe that something else is needed besides simply seeding hurricane clouds. This, they suggest, is by seeding to entrain warm air outward from the hurricane cloud wall and by this means to stimulate the growth of cumulus towers, or deep cumulus clouds reaching to a height of 20,000 or 25,000 feet. In this way, they would hopefully expand the hurricane eye and thereby diminish the speed of the counterclockwise winds rotating around the eye. Hurricane winds rotate faster when the eye is relatively compact and small.

Caution limits opportunities

Project Stormfury scientists are looking forward eagerly to 1971, and to an opportunity to apply the results of their research to hurricanes. But until they know definitely what results seeding operations will produce in the superstorms, they are carefully avoiding the seeding of hurricanes that may strike inhabited areas. Their caution greatly limits their opportunities to do seeding experiments with hurricanes.

However, Dr. R. Cecil Gentry, Director of NOAA's National Hurricane Research Laboratory and of Project Stormfury, says that "if Federal hurricane modification research continues at the present level for a decade, and if in that time one severe hurricane such as Camille in 1969 can be weakened so that its damage is reduced by as little as 10 percent, the investment will have been returned tenfold."

The taming of hurricanes by advancing scientific knowledge may be well in the future. But meanwhile the warning system, unequalled anywhere in the world and greatly improved since World War II, has clearly reduced the death toll of these extremely powerful storms.

Not since 1938, when a hurricane that smashed Long Island, New York, and Southern New England killed more than 600 persons, has an Atlantic hurricane cost more than 500 lives in the United States. Before that, there was the Galveston, Texas, hurricane of 1900 that left 6,000 persons dead, most by drowning in the storm-whipped tide, and the hurricane in 1928 that blew the waters of Lake Okeechobee in Florida into surrounding populated sections, taking 1,836 lives. From disastrous Hurricane Audrey in 1957 until Camille in 1969, no hurricane killed more than 100 persons in the United States.

The life-saving value of the warning sys-

Hurricane Safety Hints

Enter each hurricane season prepared. Recheck your supply of boards, tools, batteries, nonperishable foods, and other equipment needed when a hurricane strikes.

When your area is covered by a hurricane watch, continue normal activities but stay tuned to radio or television for all NOAA Weather Service advisories. Ignore rumors.

When your area receives a hurricane warning:

Leave low-lying areas.

Moor your boat securely before the storm arrives, or evacuate it to a designated safe area. When your boat is moored, leave it, don't return once the wind and waves are up.

Board up windows or protect them with storm shutters or tape.

Secure outdoor objects that might be blown away or uprooted or bring them inside.

Store drinking water—your town's water supply may be contaminated or damaged by hurricane floods.

Keep your car fueled.

Stay at home.

Remain indoors during the hurricane.

Hurricanes moving inland can cause severe flooding. Stay away from river banks and streams.

Tornadoes spawned by hurricanes are among the storms' worst killers. When a hurricane approaches, listen for tornado watches and warnings. A tornado watch means tornadoes are expected to develop. A tornado warning means a tornado has actually been sighted.

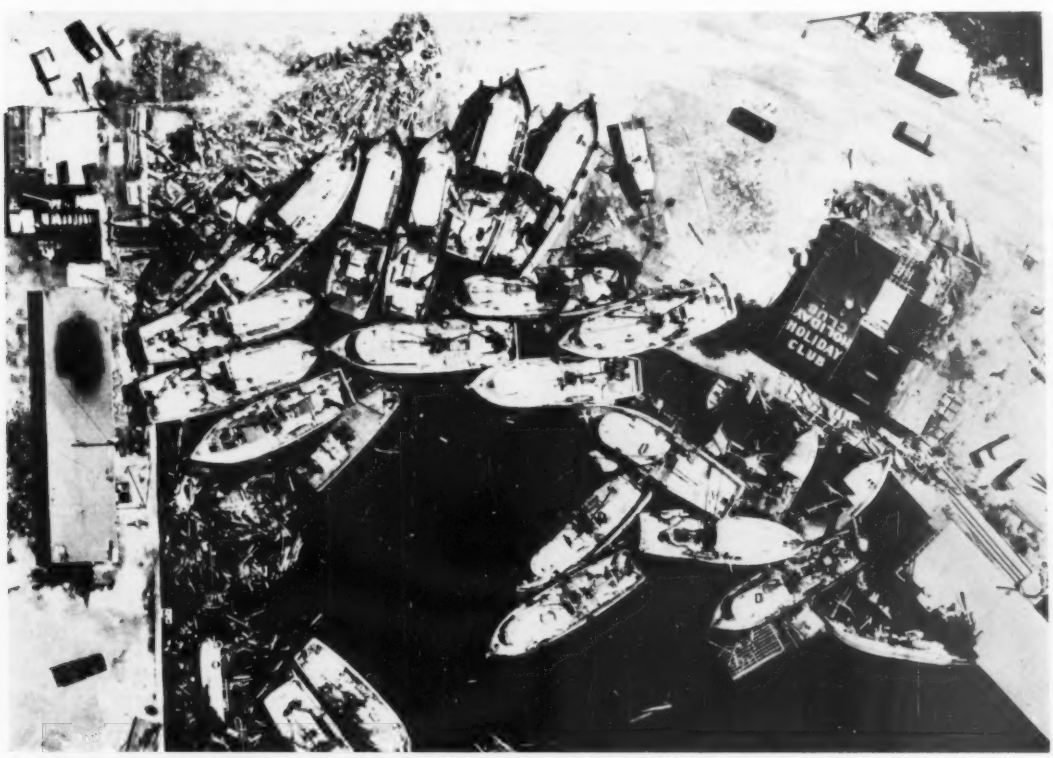
tem, and of the coordinated civil defense work of local people, is graphically illustrated by Celia, the big hurricane of 1970. Sixteen hours before Celia struck the Gulf coast of Texas, the Corpus Christi area was warned that action should be taken. Thousands of persons were evacuated before the hurricane arrived, and as a result of these precautions only 11 persons died in the storm's path. Celia developed gusts of 160 miles an hour.

The death toll of hurricanes has declined in spite of the increasing population density along the Atlantic and Gulf coastlines. At the same time, the property damage caused by the superstorms has increased. Hurricanes that cause half a billion dollars in property damage are not unusual in the present era. Camille caused property damage estimated at $1.42 billion.

The future presents some problems so far as hurricane destruction is concerned. One is the unwillingness of many people to heed warnings. A survey shows that 28 percent of the people in the Gulf coast strip that caught the full fury of Camille ignored the pleas to evacuate. In this strip, 146 persons died and 21 others are listed as missing. Of those who chose to ride out the storm, only 7.5 percent believed that the winds could completely destroy their houses, and less than one percent believed that the storm-lashed tide could completely destroy their houses. Those who fled had much higher levels of belief in both instances. Both groups had an average of nearly 12 years of education.

Other problems cited by the men concerned with hurricanes include the lack of adequate building codes in many coastal areas, the concentration of high-rise and vacation housing construction on low-lying coastal land, and the lack of coordination between housing and highway construction.

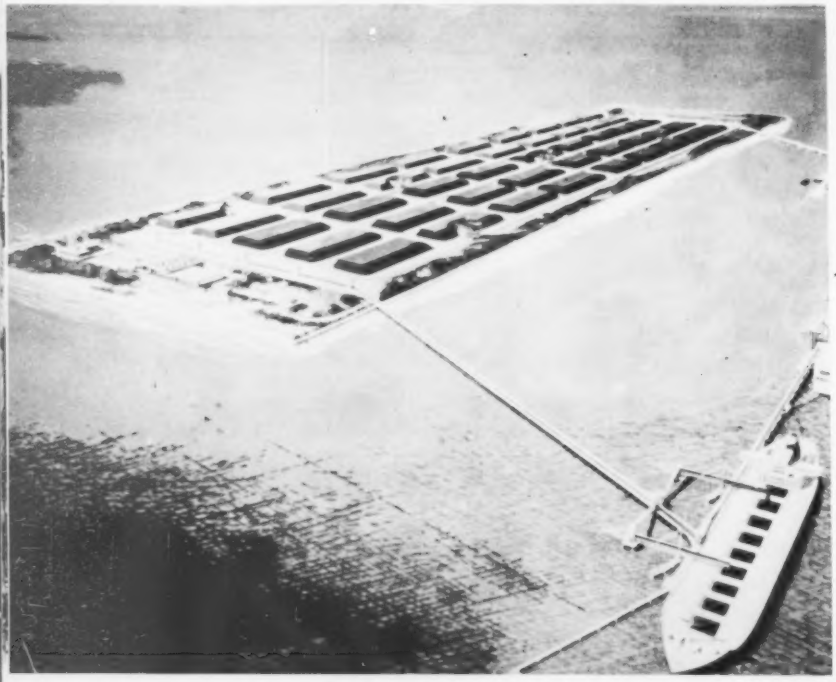
These factors create a fear that the fine record in saving lives made in recent years may be reversed, particularly if a large number of people in low-lying coastal areas were trapped at some future time because the warning time was short and the highways inadequate to evacuate them quickly. Hurricane watchers point out that the great storms are not always entirely predictable. One of the worries of the forecaster is the storm that may be lying asleep some distance off shore, and that suddenly may start toward the mainland with a rapidly increasing wind velocity. —*NOAA*



CRUSHED INTO FIREWOOD—*Boats such as these are often smashed against the shoreline by high waves whipped up by a hurricane. Last year only three storms developed sufficient force to be classified as hurricanes. The big one was Celia, which smashed the Corpus Christi Bay area in Texas.*

U.S. To Consider Ports Nature Didn't Provide

Study Will Probe Feasibility Of Offshore Terminals To Handle Supersized Bulk Carriers



IN DELAWARE BAY—*Artist's drawing of how 250,000 deadweight ton-size ships would load at a proposed transfer terminal in Delaware Bay.*

World trade of the future is heading more and more for supersized vessels, but—by an accident of geology—existing port channels in the United States are not deep enough to accommodate them.

Five ports in Canada can. Ten in Japan and 15 in the European nations are geared to meet the requirements of the big ships.

Nearly 300 ships over 100,000 tons are already plying the world's sealanes. By 1974, this number will more than double. Yet, Maritime Administration officials say the United States is five to ten years behind other industrial nations in planning and developing offshore deepwater facilities.

"We'll either have to meet the competition or pay the higher costs in the future," asserts Andrew E. Gibson, Assistant Secretary of Commerce for Maritime Affairs.

Gibson, whose responsibilities include overseeing President Nixon's program to build a modern fleet of competitive U.S. flag ships, recently announced a contract award for a study of the feasibility of multi-purpose offshore terminals in the United States.

LOADING AT KUWAIT—*The SS UNIVERSE IRELAND, the world's largest ship, is berthed at an offshore oil loading facility ten miles off the coast of Kuwait. The facility is connected to shore by a 48-inch crude petroleum submarine pipeline and a 20-inch bunker fuel oil submarine.*

Need for these facilities, especially in the industrial North Atlantic region, is underscored by world shipping's economies of scale and this country's growing reliance on bulk commodities to supplement its diminishing supply of raw materials.

"These raw materials are the lifeblood of our economy," Gibson adds, "The high transport costs incurred in moving them must be borne by the consumer . . ." And the costs will be "astronomical."

Bulk cargo tonnage

Nearly 90 percent of the nation's international oceanborne tonnage consists of bulk cargoes. In 1969 movements amounted to more than 380 million tons. By 1982, it is expected to aggregate some 570 million tons for a growth rate of nearly 50 percent.

Without deepwater loading and discharge facilities, the unit transport savings of the larger vessels cannot be made available to the Nation's bulk-using and producing industries. If denied these economies, concern has been expressed by many in the shipping industry that these industries will begin to seek more favorable locations outside the U.S.

"We cannot risk the relocation of critical processing industries outside this country. This could be the inevitable result of not providing essential shipment facilities within our boundaries," Gibson asserts further.

The Commerce official pointed out that Canada, for example, is ready to welcome U.S. industrial development in its Eastern and Western Provinces which are being served by the mammoth vessels.

This country's deficiencies in offshore terminal development are obvious in the constraints placed on the shipbuilding program.

The largest ships that can be accommodated today at East Coast or Gulf Coast ports are in the 80,000 deadweight ton class.

One thrust of President Nixon's maritime program is to assist the bulk carrier operators in building a modern fleet of competitive U.S. flag bulk ships. It provides for subsidized construction of approximately 300 high performance vessels over a ten-year period. U.S. shipowners have submitted ap-

OTHER END OF THE LINE—*The 312,000 deadweight ton-size vessel discharges its cargo of oil at Bantry Bay Island off the coast of Ireland. The Bantry Bay deepwater port is equipped to handle vessels up to 326,000 deadweight tons.*

plications to build supertankers in excess of 200,000 tons and combination bulk carriers of 150,000 tons or larger. Competition in world shipping demands that a number of the new fleet be supertankers.

Yet, depth limitations of existing U.S. ports would make these ships unable to berth fully-loaded at almost all U.S. ports.

Answering the need

A deepwater terminal, constructed several miles away from the shore, could serve an entire region of the country and fulfill more than one function. The supersized vessels could dock at the facility, transfer cargoes to feeder vessels, barges, or pipelines which could distribute the material to consumers.

Soros Associates, a New York City firm of consulting engineers, which won the Maritime contract to make the initial study, will explore the possibilities of diversified uses for the offshore units. Some uses being considered are an atomic energy plant, a desalination facility, sewage disposal operations or an offshore airport.

One of the key areas Soros' team will explore is how to make such an offshore facility "pollution-free."

The consulting engineers, assisted by Ocean Science and Engineering Inc., will cover the following:

—Projecting bulk cargo shipment requirements for U.S. industry over the next 30 years on a geographic basis and the capability of present bulk cargo distribution systems to handle them.

—Comparing alternative methods of using supersized ships to carry these cargoes, including the use of feeder vessels and pipelines, and the possibility of moving user industries to sites where these ships can berth.

—Formulating advanced concepts in design, construction, and operation of offshore island terminals, including development of economic and technical data.

Why go offshore to build the terminals?

The alternative, dredging present harbors is "prohibitive" because of costs, according to Gibson. In some cases dredging would be ecologically unacceptable.

In the North Atlantic region, between the Ports of New York and Hampton Roads, the greatest bulk vessel size pressures and least channel deepening capabilities are concentrated. Existing channel depths in those ports range up to 45 feet, but depths in excess of 60 feet will be required to accommodate fully laden bulk carriers over 150,000 tons.

To attain such depths through deepening of these channels is not only economically unfeasible but practically physically impossible. For example, expense of removing immense quantities of underlying rock in the New York and Delaware Rivers and relocating the vehicular tunnels crossing the entrance channels to Baltimore and Hampton Roads would be astronomical. In addition, there would be the enormous cost of measures to prevent any irreparable environmental and ecological damage.

The program for deepwater terminal development is in Maritime's Office of Ports and Intermodal Systems.

One private industry proposal being followed closely by Maritime officials, involves a plan for a large man-made island in Delaware Bay.

The deepwater terminal proposal of Zapata Noress Inc., an international bulk

shipping service company of Houston and two New York city firms, calls for an island which would cover approximately 300 acres. It would be 9,000 feet long by 1,500 feet wide. The firms have organized a new subsidiary, Zapata Bulk Systems Inc., to build the island, providing they get the approval of the Delaware legislature.

Almost deep enough

Up to 75 foot minimum depth is required for 250,000 deadweight ton size ships. The site off Delaware is already about 65 feet deep. The plan envisions that the 11 million tons of fill needed to build the island could be dredged from the basin.

The island would store up to three million tons of coal for loading onto the supersized ships for exporting to Japan and other steel producing nations. Another island could be built or the first island extended so that the vessels, after unloading the exports in foreign countries could pick up a bulk import product, such as ore, for return to the United States.

Paul Soros, of Soros Associates, said the study for Maritime will weigh the uses of Delaware against other alternatives for a deepwater port in the North Atlantic region.

Utilizing Delaware Bay would be considerably cheaper than going into the open Atlantic to build an island that would have to be shielded from the waves, he added.

Soros said his firm will identify major movements of cargo on a regional basis so that "we can identify the economic benefit of a deepwater port and the types of facilities needed."

"We already know (cargo) movements are different in the Atlantic than on the Gulf and the regions are quite different from a technological and geological standpoint," Soros continued.

In the Gulf area, conditions are favorable because of some shallow areas where the cost of an island would not be prohibitive, he added. Although tonnages at Gulf ports are much smaller today, Soros said a deepwater development in the Gulf would, through use of the inland waterways in the South, "open up the heartland of the nation."

—Maritime Administration

SEATTLE—*Activity at a bustling containerport in Seattle is contrasted with a virtually empty bulk cargo port in the background. The big tankers cannot get into the bulk cargo facility because of shallow channels. Pacific cargo movement differs from Atlantic but needs are the same. Deep water.*

U.S. Trade Prospects In National Spotlight

Week's Observances Across Nation Focus Attention On Exporters' Role In Economy

In the nation's busiest port a convoy of dozens of commercial vessels will go on parade. In an inland state capital the governor has hung the flags of many nations from his executive mansion. The symbolic message is the same—as it is all across the nation during this World Trade Week, 1971—foreign trade has a vital place in America's economy.

President Nixon set the keynote for the week's activities with a proclamation emphasizing that "Now, more than ever before, the United States must seek to strengthen its role as a key supplier to the global marketplace. . . . I call upon the business community and the American people to consider world trade as an important national priority." The nationwide effort has been stimulated by the 42 Business Services Field Offices of the Department of Commerce, the Chamber of Commerce of the United States and many Regional Export Expansion Councils (REECs).

It is in New York that a convoy of 50 to 100 commercial vessels will parade in the harbor, and in Jackson, Miss., that Governor and Mrs. John Bell Williams will fly the flags of many nations from the Executive Mansion as they host a Mississippi Marketing Council reception honoring the New Orleans consular corps.

The New York-New Jersey area has other events: New York World Trade Day luncheon, with an address by Peter G. Peterson, Assistant to the President for International Economic Affairs; followed by a shipboard inspection tour of harbor facilities, sponsored by the Port of New York Authority; then a New Jersey World Trade Day luncheon in Newark; World Trade Week luncheon of the World Trade Club of Long Island, at the Merchant Marine Academy, Kings Point; Foreign Freight Forwarders and Customs Brokers Night; the World Trade Week luncheon of the Propellor Club of New York; World Trade Week luncheon of the Rotary Club of New York; and the 50th annual luncheon of the American Importers Association.

Jackson also has other events scheduled this week. The Jackson Rotary Club will discuss "World Trade and Mississippi," and a dinner meeting of the new International Trade Club of Mississippi will be held.

Los Angeles, where World Trade Week began 44 years ago, will open its celebration with a reception and dinner honoring visiting foreign businessmen. The first West Coast International Licensing Show will be held at the Occidental Center and a City Hall seminar on exporting is to be sponsored by the Export Managers Association and the

Mayor's City Economic Development Board. There will also be a World Trade Week breakfast, the Propellor Club's Maritime Day luncheon on Terminal Island, and a City Hall "Business Conference on Trade," to be addressed by Harold B. Scott, director of Commerce's Bureau of International Commerce (BIC).

On Thursday, Secretary of Commerce Maurice H. Stans will address the 45th annual World Trade Week luncheon of the Foreign Trade Association of Southern California. The Secretary will also present the Los Angeles Chamber of Commerce's Bronze Plaque to a world trade leader.

Milwaukee's observance will be highlighted by the 7th Annual Wisconsin International Trade Conference and World Trade Dinner. Mrs. Helen D. Bentley, chairman of the Federal Maritime Commission, will be the dinner speaker and Harold A. Bratt, director of BIC's General Trade Policy Division, will speak at one of the morning panel sessions.

The importance of world trade to the Jacksonville area will be highlighted at the Fifth Annual World Trade Dinner. Guest of honor will be Helmut Middlemann, of the West German Embassy in Washington.

The Tampa business community—spearheaded by the Tampa World Trade Council of the local chamber—will send a delegation of Tampa world trade officials to the 21st Annual Chamber of Commerce of the Americas at its meeting in Puerto Rico Thursday. The Tampa group aims to help establish direct trade and shipping service to Puerto Rico.

Luncheon in Birmingham

The Alabama World Trade Club, Alabama Transportation Club, and Commerce's Birmingham Field Office will sponsor a World Trade luncheon in Birmingham. Robert E. Simpson, director of the Commerce Department's Office of International Commercial Relations, will be the guest speaker.

Atlanta will kick off the week with a Port of Antwerp Day, in keeping with the city's custom of honoring one of its trading partners each year, and climax it with a day-long World Trade Conference. Sponsored by the Georgia International Trade Association, Georgia Department of Industry and Trade, and the World Trade Council of the Atlanta Chamber of Commerce, the day will feature Gov. Jimmy Carter, who will assess "The State of Georgia in World Trade."

Meanwhile, in Savannah a World Trade luncheon will be sponsored by the REEC, and the annual Maritime Day Banquet by the Port of Savannah's Propellor Club.

PLANNING MAY 16-22 OBSERVANCE—*St. Louis World Trade Week Committee includes, from left: Carl E. Widell of the World Trade Club, Field Office Director Charles Gore, Peter Fanchi, Jr., general chairman of the committee, and Michael Witunski of the Chamber of Commerce.*

Arizona has scheduled its first World Trade Week awards banquet, and Gov. Jack Williams will make the presentations at the Phoenix event to be sponsored by the Arizona World Trade Assn. and REEC.

The World Trade Club of Greater Cincinnati will hear Sen. Robert A. Taft of Ohio. The Ohio Valley International Trade Conference's 6th annual meeting is scheduled in Dayton. Featured speaker at the Friday event will be Robert L. McLellan, Assistant Secretary of Commerce for Domestic and International Business.

Kansas City has scheduled both a World Trade Week luncheon and a World Trade Week dinner. In keeping with its practice of honoring specific foreign countries during World Trade Week, Kansas City is paying tribute to the Benelux countries. The International Trade Club will sponsor a luncheon at which Charles Barrett, deputy director of the Commerce Department's Office of International Commercial Relations, will speak on business opportunities in the Benelux nations. The Ambassador of the Netherlands will address the World Trade Week dinner.

The Chicago area has a full schedule, beginning and ending with presentations of "E Star" Awards to firms for continued excellence in exporting.

The first "E Star" will go to Soiltest Inc., of Evanston. The State of Indiana's Department of Commerce will sponsor an all-day export seminar in Indianapolis. Bernard Cahill,

acting director of BIC's American Republics Division, will address a meeting of the Chicago Midwest Credit Management Association. Chicago's World Trade Week dinner will be held on Thursday. Sponsors include the Chicago Association of Commerce & Industry, State of Illinois, International Trade Club, Illinois Manufacturers Association. A Traffic Club dinner will be addressed by John Reed, president of the Santa Fe Railroad. The week's final event will be an "E Star" flag-raising at the General Binding Corporation's Northbrook, Ill. headquarters.

The International Trade Bureau of the Cedar Rapids-Marion Area Chamber of Commerce will promote World Trade Week with members speaking before various luncheon groups and window displays of local exports. The Bureau, in cooperation with the Iowa Regional Export Expansion Council and the Iowa Development Commission, will sponsor an all-day seminar on "Expanding Markets in Latin America" at Cedar Rapids led by Bernard Cahill.

Colorado's observance will center around a one-day export seminar and a triple "E" Award presentation at Denver. Jack O. Padrick, director of Commerce's Office of Business Services will present an "E" to Cobe Laboratories of Denver, and "E Stars" to the Eversman Manufacturing Co. of Denver and the Wilkerson Corp. of Englewood, Colo.

In neighboring Utah, Padrick will present several more "E" Awards at a World Trade Banquet in Salt Lake City. The World Trade Association and the Kiwanis are also sponsoring a World Trade luncheon there.

The Minnesota World Trade Association will sponsor a foreign trade meeting in Minneapolis, at which the principal speaker will be Robert L. Pritchard, director of BIC's Export Sales Campaign Division. Commissioner of Patents William E. Schuyler, Jr. will discuss "The Business Community's Stake in International Intellectual Property" at a Minnesota Bar Association event.

Washington Governor Daniel J. Evans, in a proclamation reminded citizens of his state that "A private, non-profit organization, the Washington State International Trade Fair, has been successfully active for some years, participating in fairs in Osaka, Tokyo, Brussels and Munich. Plans are now underway for participation in the Sydney, Australia international trade fair in August."

Detroit's REEC has scheduled a luncheon meeting which will hear a speaker from the Eximbank. Two "E Star" awards are planned, and a special world trade article will appear in the weekly publication of the Greater Detroit Chamber of Commerce.

Baltimore also is featuring trade articles, with a series of export success stories of Maryland firms appearing daily in the *Baltimore Sun*.

Western Pennsylvania will observe four different World Trade Days in four separate areas: Beaver Falls, Erie, Greensburg, and Washington, Pa. The Pittsburgh Field Office will help to sponsor a Pittsburgh World Trade luncheon.

Tradition in Charleston

The traditional highlight of World Trade Week each year in Charleston, S.C., is the National Maritime Day banquet, sponsored by the South Carolina REEC and the State Port Authority. Featured speaker is Federal Maritime Commission Chairman Bentley.

North Carolina traders have scheduled a Regional Export Expansion Council meeting in High Point; a North Carolina World Trade Association board meeting; a joint meeting of the Metrolina World Trade Club, Triad World Trade Club and Triangle World Trade Club; and an export symposium at the Hickory Chamber of Commerce.

Andrew A. Gibson, Assistant Secretary of Commerce for Maritime Affairs, will present the National Maritime Poster award on the steps of the Capitol in Washington. He will also address meetings of the Propellor Club in San Francisco and Portland, Oregon.

Also in San Francisco, BIC Director Harold B. Scott will speak at a World Trade and Travel Day luncheon.

The Arkansas Exporters' Roundtable and REEC will sponsor a "floating workshop" on international trade aboard a riverboat on the Arkansas River at Little Rock. The session will feature the Global Marketing Program of the U.S. Department of Commerce. The boat will dock for a tour of the Port of Little Rock and a lunch of catfish and hushpuppies.

Boston area activities will include a World Trade Day luncheon sponsored by the International Center of New England. Featured speaker will be Hudson Drake, Deputy Assistant Secretary of Commerce for Domestic Business, who will also present an "E" Award to the Addison-Wesley Publishing Co. of Reading, Mass.

Nova Scotia's floating trade fair, the *S.S. Prince of Fundy*, will be in Boston for the

week and will hold a reception at its berth on Hoosac Pier. The Massachusetts Port Authority has scheduled a National Transportation dinner and the Propellor Club of Boston will hold a Maritime Day luncheon.

The Providence World Trade Club will sponsor a World Trade Week luncheon.

A combined observance of World Trade Week and Maritime Day has been scheduled by the Chamber of Commerce of Hawaii, the Hawaii World Trade Association, and the Propellor Club of Honolulu.

The Louisiana-Mississippi REEC will sponsor a World Trade Week luncheon in New Orleans.

The St. Louis area observance will include: an "E" Award presented to the Gates Radio Co. in Quincy, Ill., by Commerce's Robert L. Pritchard; a day-long international marketing session aboard a steamboat on the Mississippi, including the bestowing of the first St. Louis International Trade Award; and a dinner meeting sponsored by the World Trade Club of St. Louis.

Final Schnellbacher address

Highlighting South Florida's observance of World Trade Week will be the second annual International Business Symposium in Miami. Featured speaker is E. E. Schnellbacher, Assistant Director of BIC, making his final public address in a 47-year Commerce career that ends with his May 31 retirement.

Cleveland's World Trade Assn. will sponsor a World Trade Week luncheon which will be addressed by Roderick M. Gillies, director of the Commerce Department's Business Cooperation Staff.

Overseas Business Day in Columbus will feature panels and meetings covering international marketing, finance, and developing exports. Featured luncheon speaker will be S. Stanley Katz, director of Commerce's Office of International Investment. He will also present an "E Star" to the Ebco Co.

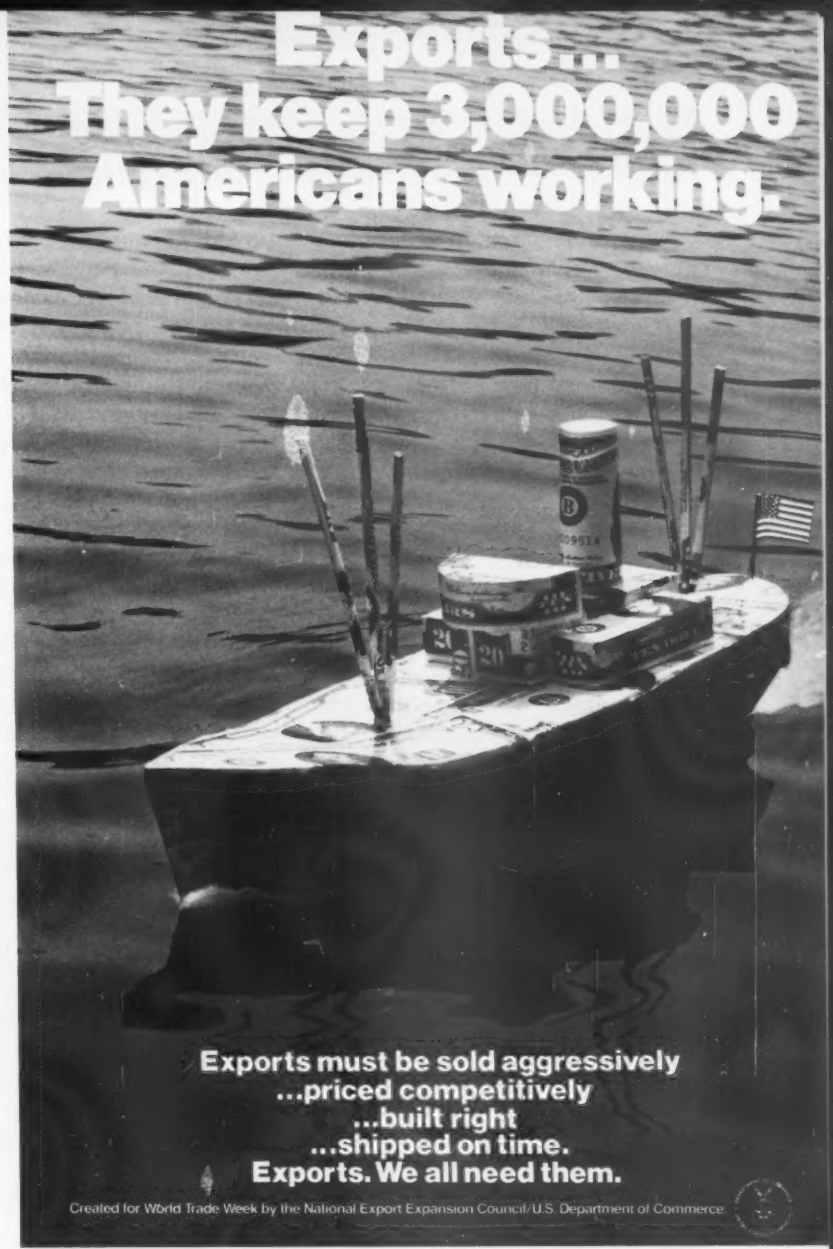
Philadelphia's Committee for World Trade Week will hold a World Trade Week dinner, a National Maritime Day luncheon, and the opening of the new Tioga Marine Terminal.

In Connecticut, an international trade seminar is planned at Danbury, and a World Trade Week luncheon will be sponsored by the Union Trust Co. in Stamford.

Buffalo's World Trade Association will hold its 50th anniversary dinner, which will be addressed by Marcel Cadieux, Canadian Ambassador to the United States. Rochester will host an "E Star" Award to Eastman Kodak and a World Trade Week reception and dinner. Marinus Van Gessel, deputy director of BIC, will speak at both events.

Memphis will hold an all-day conference sponsored by the World Trade Council of the Chamber, the World Trade Club, and Mid-South Exporters' Roundtable. Featured speaker will be Lawrence A. Fox, Deputy Assistant Secretary of Commerce for International Economic Policy.

—Office of Business Services


Exports...
They keep 3,000,000
Americans working.
Exports must be sold aggressively
...priced competitively
...built right
...shipped on time.
Exports. We all need them.
Created for World Trade Week by the National Export Expansion Council/U.S. Department of Commerce

GETTING MESSAGE ACROSS—*A total of 42,500 posters were sent by the Commerce Department to the 16,000 U.S. firms employing 50 or more workers, stressing importance of World Trade Week, which winds up on National Maritime Day, May 22.*

How Commerce Serves You

This is another in a series of one-page summaries of the services that specific Commerce Department units provide.

Providing new directions for U.S. business and industry in promoting economic growth and meeting social change is a primary concern of the *Bureau of Domestic Commerce.*

One of the newest agencies in the Federal Government organizationally—yet one of the oldest in concept—the *Bureau of Domestic Commerce* was established last September 15 with the consolidation of the Business and Defense Services Administration, Office of Field Services and U.S. Expositions Staff.

It is headed by Hudson B. Drake, as Deputy Assistant Secretary and Director, Bureau of Domestic Commerce.

Purpose

The purpose of the organization Drake directs is to develop domestic business policy and provide services to the business community.

Emphasis is placed upon maintaining the data base for 468 industries which make up approximately 95 percent of U.S. industrial capacity; analyzing upcoming issues and problems for policy recommendation purposes in specific business/industrial areas as related to economic growth in peacetime; assisting U.S. industry to meet defense requirements; and establishing and maintaining a close working relationship with local business in support of national economic growth.

A working forum

The *Bureau of Domestic Commerce,* including the 42 business service field offices listed in the inside back cover of this magazine, provides a working forum for business and the Federal Government. It is particularly concerned with the role of industry in material resources, international short supply, environmental matters affecting business, national growth patterns, production mobilization systems, industry-consumer and industry-government relations, industry-wide data, and domestic commerce services performed in Washington as well as the field.

Helps establish policy

The agency, with some 800 employees, assists the Executive and Legislative branches of the Government, in establishing domestic business policy (one of the original functions of the 58-year-old Department of Commerce) and elicits industry support for a policy that is responsive to the balanced needs of the public.

In pursuit of these objectives and in providing the medium for an exchange of information between Government and industry, BDC has been organized into four primary operating units—the Offices of (1) Business Research and Analysis; (2) Domestic Business Policy; (3) Industrial Mobilization; and (4) Business Services.

The Office of Domestic Business Policy maintains daily communications with business policymakers; analyzes impending business problems, develops alternatives for the solution of such problems; prepares business policy recommendations; and helps industry effect change. Its six divisions deal with trade adjustment assistance, marketing and such national issues as self-regulation of advertising, other consumer, and environmental matters.

The Office of Business Research and Analysis includes the former industry operations and commodities expertise of the old BDSA plus the quality control, forecasting and special report functions that now constitute BDC's data base staff. It is responsible for estimating the U.S. industrial outlook and for preparing data reference publications. Its information is exchanged with business and disseminated to Government agencies and the public at large.

Hudson B. Drake
Deputy Assist. Secretary, Director
Bureau of Domestic Commerce

Chief outlet

Among the chief outlets for this and other Commerce information are the field offices of the Office of Business Services. The broadened objectives of this Office also include counseling and other services to business locally and regionally; the promotion of export opportunities for local business; working with trade groups and state and local governments; and administration of expositions and exhibits programs throughout the United States.

The Office of Industrial Mobilization plans for industrial response to national emergencies; analyzes industry problems in mobilizing; assures government-industry emergency readiness and prepares mobilization policy recommendations.

DOMESTIC BUSINESS REPORT

- Illinois town is U.S. population center
- Interest rate cut on development loans
- All government levels aid vets' job hunt
- Minority firm wins Academy contract
- Ombudsman is contact for 13 Federal agencies

Fame Comes To Illinois Town As U.S. Center Of Population

A small city in Illinois, in a county where land once sold at $1.25 an acre, became famous yesterday.

The city is Mascoutah; the county, St. Clair; and yesterday Secretary Stans was to slip a plaque in place on a four-foot high marble shaft, which now stands on the lawn of the municipality's City Hall, identifying it as the 1970 Center of Population of the United States.

Actually, the exact site of the new Center of Population is not within the city boundaries of Mascoutah, but has been pinpointed by 1970 Decennial Census records at a spot "5.3 miles East Southeast of this marker." The precise location is at latitude 38 degrees, 27 minutes, 47 seconds north, and longitude 89 degrees, 42 minutes, 22 seconds west, in a field that is part of a farm owned by Lawrence Friederich. A bronze marker, bearing the simple inscription, "U.S. Population Center 1971", has been buried 18 inches below ground at this spot.

The second marker is an honorary one, placed in the town where it can be seen and read.

To explain

The Census Bureau explains the 1970 Center of Population as the point at which an imaginary flat, weightless and rigid map of the United States would balance if weights of identical size were placed on it so that each represented the location of one person on April 1, 1970, the day on which the last decennial census was taken.

The Population Center is not to be confused with the Nation's *geographical* center, which is the point at which the surface of the United States would balance if it were a plane of uniform weight per unit of *area*. The geographical center is located in Butte County, South Dakota.

Time-honored tradition

The guest list for the day-long festivities, which traditionally honor the new U.S. Center of Population every ten years, included Federal State and local government officials and industrial leaders. Mascoutah's Mayor, Vernon Coleman, was to officially open the ceremonies, introducing the Governor of Illinois, Richard B. Ogilvie, to conduct the program. In addition to Stans, other program dignitaries included the two U.S. Senators from Illinois, Charles H. Percy and Adlai E. Stevenson, the U.S. Representative for that District, Melvin Price, and Dr. George H. Brown, Director of the Commerce Department Census Bureau.

The city which can claim the 1970 Center of Population has a 1970 census population listing of

A NEW STAR IS BORN—*Mascoutah, Ill., adds its star to the growing number of U.S. Center of Population points that have traveled westward since the first Census in 1790. This is the third time the Center has been located in Illinois.*

5,045. The first census which showed figures for Mascoutah was taken in 1850, showing a population for the town of 378 persons, who, according to a local antiquarian, were "63 percent German, 32 percent American and five percent black."

A Census Bureau spokesman describes Mascoutah as a "very bright, small town." He said it boasts big green parks, a new-looking junior high school and a high school glistening with pink bricks. The main street is the cleanest he had ever seen, "the kind where clerks still come out in the morning to sweep the sidewalks."

Mascoutah lies in an area of rich farmland and small factories. The farm on which the exact Population Center is located is prosperous, and the farmer, Friederich, is third-generation American of German descent, who has farmed this land for 30 years. He could be said to belong to a somewhat typical American family, living here with his wife and second daughter (his first is married).

Westward Ho!

Although the new Center of Population has dipped slightly south since the last census (it is 9.4 miles south of the 1960 site near Centralia, Ill.) it has moved west 26.9 miles in the last decade, confirming a continued westward movement of the United States population.

The resident population of the United States in 1790 was 3,929,214. In 1970 it was 203,184,772. In the intervening 180 years, the Center of Population has shifted about 700 miles west and 60 miles south from the 1790 location, which was 23 miles east of Baltimore near Chestertown, a fishing community on Maryland's Eastern Shore. While the resident population has increased almost 52-fold in that period, the Population Center has moved less than a third of the way across the United States.

When the second decennial census was taken in 1800, the center moved 40.6 miles westward and half a mile southward in Maryland to a point 18 miles west of Baltimore, then a city of 26,514.

In 1810 the center moved 36.5 miles westward and 5.3 miles southward to a point near Leesburg, Virginia, and that State, which then included what was to become West Virginia, held the Center of Population for the next four decennial censuses. In 1820 it was located in Moorefield, a shift of 50.1 miles westward and 6.7 miles southward.

In 1830 it moved westward 39.4 miles and southward nine miles to a site near Petersburg, West Virginia, and in 1840 it was near Clarksburg, West Virginia, a shift of 54.8 miles westward and, for the first time, northward 4.7 miles. This northward shift was due to a heavy population increase in the area north of the 39th parallel.

In 1850 the center was near

Parkersburg, West Virginia, on the Ohio River. The westward march, 54.7 miles, was almost the same as in the previous decade but the swing was again to the south, this time by 3.5 miles. This was principally because of the inclusion of the State of Texas and other Southwest areas, plus sizable increases in the population of Louisiana, Arkansas, and Missouri.

The center moved into Ohio in 1860, a jump of 80.6 miles westward and 1.6 miles northward to a spot near Waverly, about 20 miles south of Chillicothe. The distance, greatest in any decade, was due to the California gold rush and a general increase of population in the far west and the Mississippi Valley.

In 1870 the shift was to a point near Hillsboro, Ohio, 42.1 miles westward and 13.3 miles northward. The heavy shift to the north was attributed to the aftermath of the Civil War and the consequent difficulty in enumerating all of the Southern population.

In 1880 it was near Covington, Kentucky, and Cincinnati, Ohio, 57 miles westward and 9.1 miles southward of the 1870 site.

A century mark

The Population Center moved into Indiana by 1890, where it remained for six decennial censuses.

Then, in 1950, the center crossed the Wabash River to a location near Olney, Illinois, a shift of 42 miles westward (the result of heavy industrial development on the West Coast during World War II), and 7½ miles southward because of large population gains in the South and Southwest.

In 1960 came the shift to the site near Centralia, Illinois, a move of 57 miles westward and 16½ miles to the south. About 18 miles of the westward course, longest since 1860, and two miles of the southward move, were attributed to the admission of Alaska and Hawaii to Statehood.

—Census Bureau

Development Loans Offer Lower Interest

To help expand economic growth and create new jobs in the low-income areas of the Nation, the Commerce Department Economic Development Administration has adopted a new policy.

Effective April 1, and continuing through June 30 of this year, the agency has reduced the interest rates on both its public works loans and its business development loans, keeping the Federal development lending program on a par with the interest rate cuts in the private sector.

This is a first for EDA. According to Robert A. Podesta, Assistant Secretary of Commerce for Economic Development, "In the past, our agency's interest rates have been set once a year. The new reduction is the first full quarter rate change during a fiscal year."

However, Podesta said EDA has now instituted a quarterly review of interest rates, because of the fluctuations in the private money market.

New rates

Through the end of the fiscal year (June 30), the new EDA public works loan rate is 5½ percent. The agency's business development loan rate is now 6 percent. These replace the former rates of 6¾ percent for public works and 7¼ percent for business development loans.

An interim reduction in March had lowered the rate to 5⅝ percent and 6¼ percent, respectively.

EDA was established under the Public Works and Economic Development Act of 1965 to help create permanent, full-time jobs in areas with high unemployment or low family incomes. The agency program funding for fiscal 1971 is $230 million.

—Economic Development Administration

PLANNING AHEAD—*Discussing target dates for the White House Conference on the Industrial World Ahead: A Look at Business in 1990, to be held in Washington, D.C., Nov. 8-10, are Thomas Macmanus, the Conference assistant director for Administration, and Sarah Brau, Program Officer, both Commerce staff members.*

Governments At All Levels Joining Vets' Job Hunt Drive

Emphasis at a Jobs for Veterans Program meeting, which was attended by representatives of 34 Government departments and agencies, was on cooperation and involvement by Federal, State and local governments and private industry in job placements for veterans, or in making training programs available to them.

A total national effort to place returning veterans in jobs, or in training programs that will prepare them for jobs, was the theme of a presentation in the Washington, D.C., Department of Commerce auditorium late last month.

Keynoter

James T. Lynn, Under Secretary of Commerce, sounded the keynote of the session in opening remarks.

"Having a direct contact with the nation's business community through the various agencies and bureaus of the Department," he said, "we can make a major contribution on behalf of the veterans and also serve the manpower needs of many industries with the skills and talents the veterans possess."

James F. Oates, Jr., National Chairman of Jobs for Veterans, expressed the opinion that "the corner is turned" in the effort and added that the nation's economy is strengthening.

James F. Oates, Jr.
National Chairman
Jobs for Veterans Program

Pointing out that veterans are returning to civilian life at the rate of one million a year, Oates, a Chicago lawyer and former board chairman of Equitable Life, said:

"You all know how in baseball the infield talks up the game. I hope all of you will talk up employment of returning veterans."

James E. Johnson, Vice Chairman of the Civil Service Commission, who recently was appointed Assistant Secretary of the Navy for Manpower and Reserve Affairs, told of some of the problems in finding jobs faced by veterans returning from Vietnam.

He related how a veteran had told him that he was turned down by eight employers on the ground that his military training might make him unsafe around their employees. "What a horrible way to treat a veteran," he commented.

The Vietnam veteran, Johnson said, confronts a special problem in his quest for a job because he is home from "a strange unpopular war." He pointed out that the Vietnam veteran had done his duty for his country under adverse circumstances. It is easier for a man to do his duty when people are cheering the veteran and the flag he has fought for. "But it is not that way now," he said.

Frank M. McKernan, Chairman of the Government Steering Committee for Jobs for Veterans listed, among other things, the following problem areas relating to the Vietnam war: no terminal point in the conflict; no massive demobilization; expression of anti-war sentiment; and adverse publicity.

He pointed out that the Vietnam veteran drifts home, and that no bands are playing to greet him.

ON THE WAY HOME—*More than 80,000 servicemen return each month.*

Other problems cited by McKernan included the following: 19 percent of the returning veterans have less than a high school education and must be trained; training also must be provided for the combat veterans, who comprise 21 percent of the Vietnam force; 10 percent of the discharged veterans are Negroes, but their unemployment rate is twice whites.

Other speakers were Capt. R. C. Maurer, USN, Executive Director, Jobs for Veterans, Lt. Col. W. J. Seaman, USAF, Staff Members of Jobs for Veterans, and Edward F. Rose, Director of Public Policy-Employment Programs of the Civil Service Commission.

A challenge

Rose emphasized the need for greater involvement on the part of Federal agencies in contacting private employers in their areas and urging them to employ veterans. He also pointed up the desirability of giving the veteran a break in internal hiring by Federal agencies. His presentation showed that veteran preference in Federal hiring had been a custom since the Revolution, and a requirement of law since the Civil War. "Federal agencies," he said, "are given a challenge, and we hope you will take it on."

—*Jobs For Veterans Program*

U.S. Contracts Opening The Way For Minority-Owned Enterprise

One of the black-owned enterprises that are doing very well in the world of business competition is California Golden Oak Products, located in downtown Los Angeles. Established in September, 1968, the year following the riots in the Watts area, the firm now has 50 employees, of whom around 30 are black and 20 Mexican-American. It expects this year to gross more than one million dollars in sales.

Not always roses

Things have not always gone smoothly for the company in its short life-span. It started out with 14 or 15 employees, had some ups and downs, dropping to as low as seven employees. But it is growing, and its growth is due to quality performance and perseverance on the part of its management. Last year it grossed $325,000 in sales.

The latest break for the company was an order for $458,000 to build dormitory furniture for the U.S. Merchant Marine Academy at Kings Point, New York. The academy, training center for merchant marine officers, is operated by Commerce's Maritime Administration.

Under an agreement between the Commerce Department and the Small Business Administration, the company is to produce 2,225 pieces of furniture for the academy in the next 10 months. The furniture will include desks, chests of drawers, and wardrobe closets. The contract was signed at a ceremony April 1 in the office of Secretary Stans. John Ketch, Vice President of the company, signed for the firm.

The contract was awarded under authority of Section 8 (a) of the Small Business Act of 1953. It is an example of how small minority businessmen, under the provisions of this section, can share in supplying the varied requirements of the Federal Government. Section 8 (a) authorizes the Small Business Administration to enter into prime contracts with other Federal agencies for supplies and services, and award subcontracts to disadvantaged firms. In this way, Government contracting opportunities are opened to many small disadvantaged businesses to bid on Government contracts.

Although SBA is not part of the Commerce Department, both agencies cooperate on many programs, especially in the field of minority enterprise development.

The first Section 8(a) contract was awarded in February, 1968. Up to the end of March, 1971, the Small Business Administration had let 585 of the contracts for a total of $71 million. During the present fiscal year, 351 contracts were awarded for $29,490,000.

Thomas S. Kleppe, SBA Administrator, says the 1971 goal is for more than 1,000 contracts to small disadvantaged firms for a total of more than $120 million. He emphasizes that this form of contracting is good business for government as well as for minority businessmen, since it creates jobs for ghetto residents, takes many people off relief rolls, and thus reaches one of the primary causes of disaffection in the inner cities.

To begin with

California Golden Oak Products was founded on borrowed capital. At first funds were borrowed from a local bank under a 90 percent guarantee by the Small Business Administration. The money is now being repaid. However, the firm was in need of equity capital, and in 1969 its first equity funds were supplied by the Arcata Investment Company, a minority enterprise small business investment company (MESBIC). Arcata now holds its stock investment in the company.

In its early days, the company produced a baseball bat which it called a "Watts Walloper." Company officials say they produced be-

ON THE DOTTED LINE—*Secretary Stans (seated right) adds his signature to the contract between the Commerce Department Maritime Administration and Golden Oaks Products. A. E. Gibson, Assistant Secretary for Maritime Affairs looks on, as John Ketch, Vice President of the California firm (seated left), gets ready to sign.*

tween 10,000 and 15,000 of the bats, which they sold readily. However, they ran into a lumber shortage, particularly of white ash, from which good bats are made. The shortage reached a point where the lumber cost over the bat price.

But the firm was not walloped into submission by this experience. It began selling picnic tables and sand boxes to a large retail organization and other retailers. Its sales to the large firm expanded. Finally, one retailer gave company officials the idea that they could make small, family-size pool tables.

California Golden Oak Products is now concentrating on making small pool tables for the regular trade, and this year expects to market up to $800,000 of the tables. Heretofore sold only in individual stores, the tables now will be offered to the national market.

Leading the way

As is usually true, good performance and quality lead to other things. The large retail firm that had been buying the company's products gave it a good recommendation, said to have been a factor in the award to the company of the contract to supply furniture to the Merchant Marine Academy.

Aside from this contract, the company has two other contracts with the Federal Government, both awarded under Section 8(a). One is for $219,000, and calls for supplying shipping crates to the General Services Administration. The other is for $278,000 to provide frames for postal mall type units for the Post Office Department. These are small self-service post offices to be placed in shopping centers, and on school campuses.

In this instance, a minority business enterprise, with the Federal Government acting as a partner and extending help, has shifted from baseball bats to mall post offices and furniture, and is reaching for better things.

—Small Business Administration

Ombudsman Is Link To 13 Agencies

A total of 13 Federal agencies are lining up to strengthen their services to U.S. businessmen through a new channel in the Commerce Department—the Ombudsman for Business.

The Ombudsman, Thomas E. Drumm, Jr., said that in response to a request by Secretary Stans for liaison offices to work closely with the new office, Housing and Urban Development, Health, Education and Welfare, as well as the Departments of Agriculture, Defense, Interior, Justice, Labor, Post Office, State and Transportation, the Export-Import Bank, General Services Administration and the Small Business Administration have designated officials in each agency to carry out this role. DOD, in fact, appointed three such offices—one for each branch of the services.

"This type of cooperation," Drumm said, "will mean more efficient, as well as faster results for the businessman who comes to the Federal government for help."

Although it only began operations last month, the Ombudsman office has already received more than 575 letters, plus countless telephone calls—all of which are receiving individual attention. In addition, numerous personal conferences have been arranged, involving commodity and country experts and representatives of different departments of the U.S. government.

The office has been established to assist U.S. businessmen by giving them a central point in Washington, D.C. to contact with their problems and needs in dealings with the Federal government.

Questions, problems, suggestions or criticisms on any Federal government-related business matters can be addressed to the Ombudsman, Thomas E. Drumm, Jr., Special Assistant to the Secretary, U.S. Department of Commerce, Washington, D.C. 20230, or call 202-967-3178.

—Office of the Secretary

Calendar For Businessmen

May 19—Washington, D.C.—National Maritime Day Poster Award Ceremonies on Capitol steps, senate side. Under Secretary James T. Lynn, speaker.

May 19-21—New Orleans—Port of New Orleans Shipping and Containerization Exposition. Armour S. Armstrong, chief, Office of Ports and Intermodal Systems, Maritime Administration, speaker on May 20.

May 19-21—Lexington, Ky.—Kentucky Industrial Development Institute, sponsored by Kentucky Department of Commerce, to be held at the University of Kentucky, for local economic development committees and professionals. Contact Damon W. Harrison, Kentucky Industrial Development Council, Frankfort, Ky. 40601. Phone: 502-564-4270.

May 22-23—Oakland, Calif.—Open house at Oakland International Airport in conjunction with Marine Terminal dedication May 19.

May 24-26—Austin, Tex.—National Conference on Public Works for economic development district and state government personnel, sponsored by the Economic Development Administration. Contact EDA Southwest Regional Dir., Austin, Tex. Phone: 512-475-5661.

May 26-28—Traverse City, Mich.—Conference on Coastal Zone and Shoreline Management in the Great Lakes. For information contact Sea Grant Conference Coordinator, Room 1536, School of Natural Resources, University of Michigan, Ann Arbor, 48104. Phone: 313-763-1464.

SCIENCE & TECHNOLOGY REPORT

- **Ocean bottom study seeks clues to continents split, new oil**
- **Automated shipboard systems to speed nautical chartmaking**
- **Scientists to probe tropical malady**
- **Fifteen more weather radio stations begin broadcasts**
- **Polish scientists end research program talks**

Ocean Bottom Study Seeks Clues To Continents Split, New Oil

A 10-week study of the bottom and subbottom of the Atlantic Ocean between North Carolina and northwest Africa seeking clues to the split which separated the African and North American continents millions of years ago, could presumably have immense significance to the oil industry.

Armed with advanced electronic equipment aboard the *Discoverer*, one of the "floating laboratories" operated by the National Ocean Survey of Commerce's National Oceanic and Atmospheric Administration, scientists are probing the depths to determine the structure of the ocean bottom.

Trans-Atlantic corridor

The investigation is centered on a 250-mile-wide, 3,500-mile long corridor stretching from Cape Hatteras to Cape Blanc, Mauritania, in Africa. The project is under the direction of NOAA's Atlantic Oceanographic and Meteorological Laboratories in Miami, Fla., and the National Ocean Survey.

This particular ocean corridor was selected because many scientists believe it represents the path the two continents took when they split apart.

The scientists will study the way the continents separated and delve into the sea bottom for evidence of potential mineral resources. Dr. Peter Rona, chief scientist of the project, recently discovered huge domes off northwest Africa on the ocean bottom within the corridor being investigated which resemble the oil-producing salt domes of the gulf coast of the U.S.

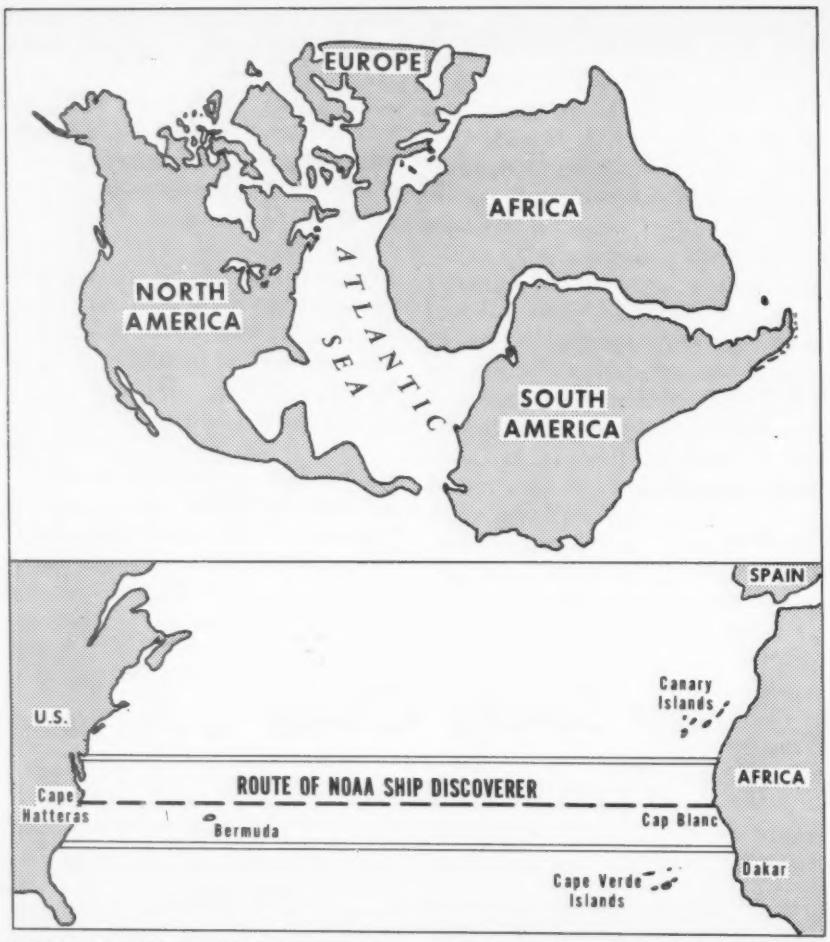
Located in 15 to 20,000 feet of water, as far as 800 miles offshore, these are the first possible salt domes to be reported on the deep ocean bottom. Prior to this discovery, the Miami scientist explains, it was believed that salt domes were limited to the continental shelves. It is the first indication that major oil deposits may extend from the continental shelves into the deep ocean.

During the investigation, coring devices will retrieve samples of the layered sediments of the ocean bottom, and dredges will bring up samples of the rocks and sediments lying in chasm-like fractures of the ocean floor. Photographs may also be taken of the ocean bottom with the ship's deep-sea camera.

Several possible uses

Electronic instruments will record data on the earth's magnetic and gravity fields. Such data are useful in interpreting the geological history of the ocean floor, as well as in evaluating the potential for oil and mineral resources. An additional use of the geophysical data will be to provide a better understanding of active earthquake zones in the North Atlantic area.

When completed, this project will provide scientists the most



PROBING THE OCEAN BOTTOM—*Drawing at the top is an interpretive sketch of the North Atlantic Ocean as it may have existed some 200 million years ago after the continents surrounding it broke up and began to drift apart. Bottom drawing depicts the 250-mile-wide area across which Cape Hatteras and Cap Blanc may have drifted apart and the* Discoverer's *route as she seeks answers to the age-old mystery.*

complete history of the splitting and drifting apart of the North American and African continents. The project is part of the United States' contribution to the International Decade of Ocean Exploration which is being funded by the National Science Foundation.

Many scientists are convinced that the present continents all evolved from a single prehistoric landmass. The North American and African continents, it is believed, were ruptured by a great cataclysm of nature caused by the eruption of an undersea mountain range.

The mountain range, known as the Mid-Atlantic Ridge, extends from Iceland down the middle of the North and South Atlantic Oceans. About 200 miles wide, it rises one or two miles above the seabed to within approximately two miles of the surface.

Running down the middle of the undersea range is a valley, and many scientists believe that lava rises here from within the earth compelling the mountains on both sides to move. As this goes on, the sea floor spreads, forcing the North American and African continents apart at the rate of about one inch per year.

If this theory of sea-floor spreading is correct, then the seabottom and subbottom on both sides of the Mid-Atlantic Range should be geophysically similar. —*NOAA*

Contract Let To Build Ship's Weather Radar

Enterprise Electronic Corporation of Enterprise, Ala., has received a $225,765 contract from Commerce's National Oceanic and Atmospheric Administration to build a ship weather radar system.

The radar is to be installed on the U.S. Coast Guard cutter *Gresham* which is stationed off the east coast eight months of each year to provide oceanic weather data to shore-based forecasters of NOAA's National Weather Service.

The *Gresham* is particularly valuable in the early detection and tracking of winter storms and hurricanes threatening the northeast.

The new radar, with its 200-nautical-mile range, will help Weather Service observers monitor storms and provide a great deal of additional data on oceanic weather conditions. It is scheduled to be operational by mid-1972.

The system includes a scanning parabolic antenna stabilized to minimize the effect of the ship's roll and pitch. Circuits will be of solid-state design for increased reliability, and the complete system will be constructed to withstand a severe ocean environment.

The *Gresham* is the primary ship assigned to Ocean Weather Station Hotel, a 15-mile circular area about 200 miles east of the Virginia Capes and 200 miles south of Martha's Vineyard, Mass. Ocean Weather Station Hotel is manned each year from August 1 to March 31 and is on 24-hour standby in Norfolk during June and July.

The Ocean Station is part of a combined Federal effort to provide the weather observations needed by the National Weather Service to forecast the formation and movement of storms off the East Coast. Units of the Navy, Air Force and Federal Aviation Administration are providing aircraft. —*NOAA*

Automated Shipboard Systems To Speed Nautical Chartmaking

Nautical charting for commercial shipping, small-craft operators, and the military, is expected to be considerably accelerated by the installation of automated data-acquisition systems aboard hydrographic survey ships of the National Ocean Survey, an agency of Commerce's National Oceanic and Atmospheric Administration.

The new systems are being installed aboard three ships and six of their 25-foot launches at a cost of $497,200.

Designed by National Ocean Survey personnel, the automated systems will appreciably reduce the two years presently required to produce a new chart from inception of hydrographic surveying to publication of the finished product, according to Commander Clinton D. Upham, Manager of the Survey's Marine Data Systems Project. He adds that it should improve the overall effectiveness of data gathering aboard hydrographic survey vessels, since it will eliminate human errors that presently occur during the manual conversion of data to digital format for later computer processing and chart compilation ashore.

Components listed

This new equipment is identified as the NOS Hydroplot/Hydrolog System. It is composed of automatic digital depth and position measuring instruments, small general-purpose computers and, in the case of Hydroplot, digital plotters. Hydroplot—the shipboard system—allows the real-time digital recording, coding, and plotting of survey position and depth information. Output products include data tapes in machine-readable digital format and plotted sheets, as well as analog and hard-copy recordings.

The need to compute or plot manually, either during or after survey operation, is eliminated by the automatic plotting capability, and survey-coverage inadequacies are immediately detectable so that corrective action is possible at once. Hydrolog—the launch system—performs the same functions and provides the same output products as Hydroplot, except that no real-time plot or position and depth data are achieved. Hydrolog-generated survey data are plotted after the fact aboard the mother ship via Hydroplot.

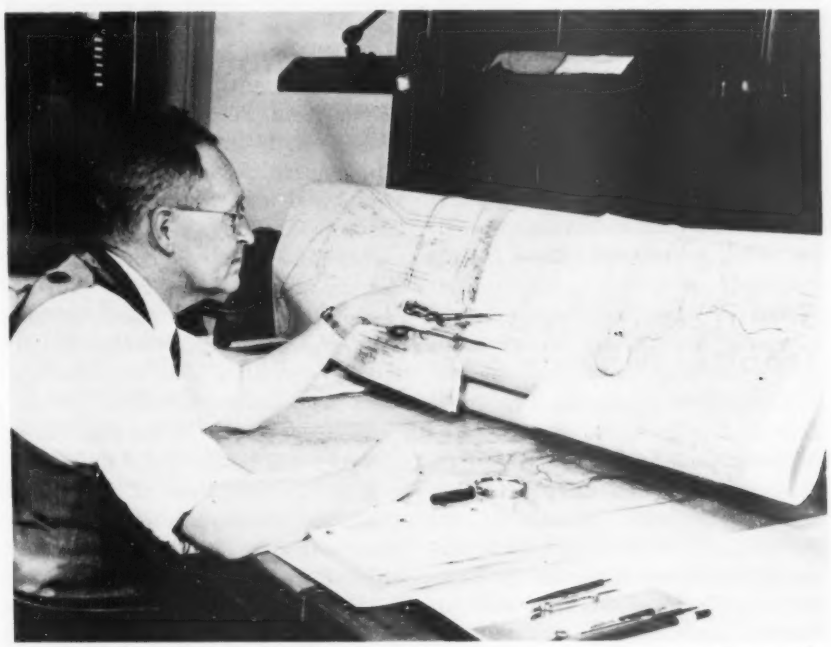
This system virtually eliminates the time and effort presently used in manually transforming hydrographic survey information to a digital format. Depths, measured with echo sounders, and position data from precise electronic navigation systems are presently manually recorded in record books. The conversion of this information to machine-readable format for use by computers ashore is a painstaking and time-consuming process which Hydroplot/Hydrolog generally eliminates. The lack of sufficient automated data acquisition equipment has in the past contributed to the accumulation of a large backlog of unprocessed data, resulting in lengthy delays in the eventual production of charts.

The decision to expand the automated data-acquisition capability aboard NOAA hydrographic survey ships followed four years of operational use of a prototype Hydroplot system by the NOAA hydrographic ship *Whiting* and 18 months testing a more advanced system model aboard a high-speed launch.

Most advanced of type

The system being installed is probably the most advanced of its type, produced from design specifications drawn by National Ocean Survey engineers on the basis of experience gained from the equipment aboard the *Whiting* and the high-speed launch.

It is being installed on the *Mt Mitchell*, based at Norfolk, Va., and



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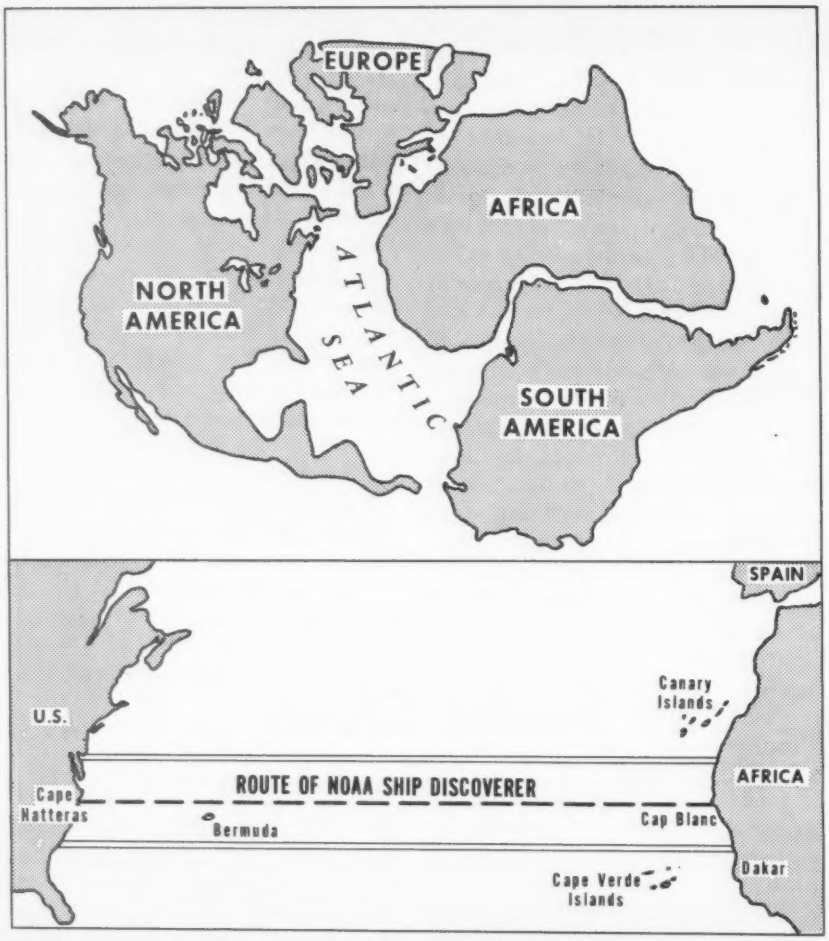

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the *Rainier* and *Fairweather*, at Seattle, Wash. Eventually it is planned to install similar systems aboard the remaining hydrographic survey vessels.

The new systems also provide for the automatic control of vessels and launches over predetermined straight line courses as they conduct hydrographic surveys, thus further increasing the overall effectiveness and efficiency of the data-gathering process.

When Hydroplot/Hydrolog-equipped ships return to port, their data are fed into a digital plotter at the National Ocean Survey's Pacific Marine Center in Seattle. Known as the "Iron Ensign" by its operators, the digital plotter, working in conjunction with a computer, provides the key data from which skilled cartographers in Rockville, Md., National Ocean Survey headquarters, fashion the charts. Ships based at Norfolk will use the digital plotter now being installed there.

Commander Upham estimates that installations of the automated system could reduce the time required for producing charts by as much as five months once the systems are in full operation. In addition to improving and speeding the gathering of hydrographic data, he points out that the new systems will also substantially reduce the time required in Seattle and Norfolk to verify the data and to evaluate it in Rockville.

—National Ocean Survey

Scientists To Probe Tropical Malady

Ciguatera poisoning, a much feared tropical malady affecting both humans and fish, is to be investigated by the Caribbean Research Institute, College of the Virgin Islands at St. Thomas, under a Sea Grant awarded by Commerce's National Oceanic and Atmospheric Administration.

The Institute's Dr. Robert W. Brody will undertake an investigation to determine patterns of infection and food chain relationships, and laboratory analysis to understand the epidemiology of the poison. The grant is $47,500.

A Ciguatera Case Repository will be established to accumulate reliable clinical and pathological data from human cases diagnosed as ciguatera poisoning.

The malady is a serious public health problem in the northern Leeward-Virgin Islands area. Fear of ciguatera also inhibits growth of the local fishing industry, to the point where local fisheries provide only about 50 percent of the fish protein consumed.

Ciguatera is apparently concentrated in the tropical island areas of the world, with little effect on continental areas. It has been under intensive investigation in the Pacific since World War II, where it apparently is linked to a shallow water food chain. The Caribbean Research Institute scientists will be in close communication with University of Hawaii researchers who are carrying out related investigations in the Pacific.

Published reports indicate that about 4,500 persons around the world have had illness diagnosed and recorded as ciguatera since it was first identified, and 542 deaths have been recorded. Often confused with gastro-intestinal disturbances, it affects the gastro-intestinal and nervous systems. It usually develops three to five hours after an infected fish has been eaten, and is marked initially by abdominal pains, nausea, vomiting, and diarrhea. Numbness may appear around the mouth, and spread to the extremities.

Cooperating with the Sea Grant project will be the Food and Agriculture Organization of the United Nations, whose fishing vessel *Alcyon* will provide fish samples and other data for the project. NOAA's National Marine Fisheries Service laboratory at Seattle, Wash., will also participate, providing chemical services in extracting and purifying the toxin. *—NOAA*

Fifteen More Weather Radio Stations Begin Broadcasts This Year

Fifteen new weather radio stations are to be opened this year by the National Weather Service of Commerce's National Oceanic and Atmospheric Administration. This will bring to 43 the number of VHF-FM transmitters operating continuously in the nation.

This spring will see new stations operating at Atlanta, Ga., and West Palm Beach, Fla. Others to go on the air before the end of the year include: Sacramento and San Diego, Calif.; Minneapolis; Milwaukee; Wichita; Detroit; Fort Worth; Dallas; Erie, Pa.; Wilmington, N.C.; Mobile, Ala.; Buffalo, N.Y.; and Anchorage, Alaska.

These stations broadcast taped weather observations, forecasts, and warnings for the general public, motorists, campers, sportsmen, boaters, and others who need a detailed weather picture any time of the day or night. When dangerous weather threatens, routine transmissions are interrupted and an emergency warning is broadcast.

Special tuners or receivers are required to pick up the broadcasts since they are beamed on frequencies above commercial FM. Tuners are becoming available in an increasing variety of types and prices.

NOAA Radio Weather stations are currently in operation at Portland, Me.; Boston, Mass.; New London, Conn.; New York City; Atlantic City, N.J.; Norfolk, Va.; Charleston, S.C.; Jacksonville, Miami, and Tampa, Fla.; New Orleans and Lake Charles, La.; Galveston, Corpus Christi, and Brownsville, Texas; Cleveland, Akron, and Sandusky, Ohio; Washington, D.C.; St. Louis and Kansas City, Mo.; Seattle, Wash.; Portland, Ore.; San Francisco, Los Angeles, and Monterey, Calif.; and Honolulu and Maui, Hawaii.

—NOAA

POLISH SCIENTISTS VISIT U.S.—*Dr. E. L. Brady (left), Associate Director for Information Programs at the National Bureau of Standards, explains the layout of the Bureau's complex at Gaithersburg, Md., to Professor Jan Kaczmarek, (second from left), member of Poland's Council of Ministers and Chairman of its Committee on Science and Technology, and Dr. Wojciech Zielenkiewicz, Secretary of the Polish Academy of Sciences (extreme right), as Dr. Lewis M. Branscomb, NBS director, looks on from behind. Kaczmarek headed a scientific delegation visiting the U.S. for exploratory talks on cooperative research programs with the U.S.*

Polish Scientists End Research Program Talks

A group of high-level Polish scientists concluded a visit to the U.S. earlier this month during which several areas were identified for possible cooperative research programs between the two nations. These include metallurgy, chemistry, mining, housing and urban problems, transportation, and environmental subjects.

Invited by the President's science adviser, Dr. Edward E. David, Jr., with whom they held discussions, the group was headed by Professor Jan Kaczmarek, member of Poland's Council of Ministers and Chairman of its Committee on Science and Technology.

In connection with cooperative research programs, research equipment needs and personnel training opportunities were also discussed. The economic aspects of this cooperation were also discussed.

During a two-week visit, they were taken to scientific institutions, met U.S. Congressmen concerning scientific, technological and economic matters, and paid a visit to the Assistant Secretary of Commerce for Science and Technology, James H. Wakelin, Jr., the National Technical Information Service, and Commerce's National Bureau of Standards.

Special arrangements were made for Minister Kaczmarek and his party to visit representatives of industries of advanced technology as well as research and management institutions in the New York City, Boston, San Francisco, and Pittsburgh areas.

Electrical Logging System Seen Tool To Detect Pollution

An electrical logging system that provides relatively quick and inexpensive measurements of sea-bottom sediments has been developed and tested by Texas A & M Sea Grant oceanographers. It is seen as a new tool to detect and control marine pollution.

Key feature of the system is an in-place gravity probe incorporating electrodes in the nose, which is dropped into the soft bottom sediments. In its present configuration, it measures the electrical resistances of the sediments as it is withdrawn.

Further development and adaptation to computer techniques is planned with continued support by the National Sea Grant Program, a part of Commerce's National Oceanic and Atmospheric Administration.

Scientists have also developed an apparatus for obtaining the same measurements from cores. In addition, they are showing how the electrical properties measured by either of the two techniques are related to certain chemical, physical, sedimentological, and engineering properties of the sediments.

Pollution detection, which is among NOAA's responsibilities in monitoring the marine environment, is essential to adequate pollution control. Bottom sediments are directly affected by changes in the type of particulate matter in the sea, and these changes can be recorded through electrical logging techniques.

Ocean engineering, mining, and pipeline surveys can also benefit from information obtained through logging, as can basic research into bottom sediments.

Electrical logs will not replace coring, the Texas A & M oceanographers point out, but will supplement it and reduce the number of cores required. —*NOAA*

Patents Of Special Interest

Recent patents issued by the U.S. Patent Office include:

One-piece swimming pool. A one-piece swimming pool liner of glass fiber reinforced plastic or other suitable material which is installed and leveled in place. The installation is placed in an excavation lined with sand or cement mixture corresponding essentially to the contour of the pool liner, by partially filling the pool with water and introducing water into the sand layer at a pressure sufficient to permeate the sand layer and raise or float the pool and settle the sand underneath. Patent No. 3,568,392 issued to Robert G. Stark, Seattle, Wash., and assigned to San Juan Products, Inc., of Seattle.

Automatic dustfall sampler. A dustfall sampler designed for the automatic measurement, hour by hour, of the rate and intensity of such deposits. The falling dust is collected on the smooth, horizontal surface of a receptor plate, a foot or more in diameter. In succession, a series of wipers moves across it, picking up the dust. Each wiper goes to a storage position and the dust is carried to a filter by a vacuum process. The quantity is too small to be weighed but can be measured by light reflection or light transmission. Correlation of an hour's dustfall with the wind direction in the same period is regarded as extremely useful in locating invisible sources of such air pollution. Patent No. 3,572,128 issued to Wesley C. L. Hemeon, Pittsburgh, Pa.

Expansible mobile home. A mobile or transportable housing unit, having laterally extensible side portions which are collapsible into the main body of the unit during transportation. The extensible portions of the unit include seating and bedding structures, which are adjustable to accommodate and provide a number of positionable elements adaptable for either sitting or sleeping. Patent No. 3,572,809 issued to Arlo T. Buland, 1012 12th St., Moorhead, Minn.

Study unit. A planetarium chair convertible to a lecture room chair which has a back and seat mounted on a pedestal where the chair can both swivel and tilt. The chair is equipped with a headrest with means interconnecting the chair back and headrest for moving the headrest from a head-supporting position to a stowed position. Patent No. 3,572,831 issued to Chester J. Barecki, and Arthur J. Hogan, Jr., Grand Rapids, Mich., and assigned to American Seating Company, Grand Rapids, Mich.

Shoulder harness. A shoulder harness restraint arrangement for a motor vehicle including an outboard belt segment having one of its ends secured to a vehicle body structure above and behind a forward-facing passenger seat. Carried by this belt segment is a collar slidable along the length of the belt segment adapted to be positioned on that portion that is proximate the neck of a seated passenger. This collar maintains a portion of the belt segment in an arched configuration to prevent chafing of the belt edge against the passenger. Patent No. 3,572,833 issued to George M. Pavliscak, Inkster, Mich., and assigned to Ford Motor Company, Dearborn, Mich.

Vehicle washing apparatus. A vehicle washing apparatus utilizing high pressure liquid spray nozzles. The apparatus includes a pair of side banks, each incorporating a series of rotatable spray nozzles adapted to spray high pressure cleaning liquid against the sides of the vehicle, and a movable carriage carrying a series of spray nozzles is adapted to ride over the top of the vehicle as the vehicle moves through the apparatus to clean the front, top and rear surfaces of the vehicle. Patent No. 3,575,184 issued to John H. Jurkens, 1061 Matador Avenue, Albuquerque, New Mexico 87100.

Abstracts and drawings of patents are published as they are issued in the *Patent Official Gazette* each Tuesday. More than 1,800 patents are issued each week. Trademarks are published in the *Trademark Official Gazette*. Copies of the *Patent Official Gazette* and the *Trademark Official Gazette* may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

Science Calendar

May 24-26 — Gaithersburg, Md. — National Bureau of Standards. Fourth Joint Meeting of Operations Researchers. Cosponsors: College on Logistics of the Institute for Management Sciences; Mathematical Society of America, American Society for Cybernetics, American Society for Public Administration, Association for Computing Machinery, and the Operations Research Society.

June 11-17—New York and Washington—Annual congress of the Bureau International de la Recuperation. Sponsored by Institute of Scrap Iron & Steel and the National Association of Secondary Material Industries, assisted by Metals and Minerals Division, Bureau of Domestic Commerce. Waldorf-Astoria Hotel and Commerce Department auditorium.

June 16-18 — Gaithersburg, Md. — National Bureau of Standards, Summer Symposium in Analytical Chemistry. Cosponsor: American Chemical Society.

June 21-24, 1971—Washington, D.C. —Fifth Symposium on Temperature, Its Measurement and Control in Science and Industry, Sheraton Park Hotel.

May 17, 1971

International Commerce

- U.S. exports, imports in first quarter 1971
- Canadian upturn aided by consumer demand
- Colombia offers challenge to U.S. exporters
- Singapore is now a burgeoning market
- Brazil in period of solid economic growth

Mission Confirms Africa's Business Promise

Newsmemo

A simplified explanation of the international role of the dollar is presented in a newly-revised Commerce booklet, "U.S. Balance of Payments." In 44 pages it describes methods of measurement of inter-country transactions, the relationship among the dollar, gold and other currencies, and the ways in which the U.S. and other countries are trying to remedy imbalances. The booklet, available at 35 cents from the Govt. Printing Office or Commerce Field Offices, also contains a bibliography for those interested in pursuing deeper studies of this subject.

Another overview for international traders is the recent Commerce publication "U.S. Exports and Imports Classified by OBE End-Use Categories, 1923-68." This volume of trade statistics released by the Office of Business Economics provides the only consistent, long-term series of data on this country's exports and imports currently available. The figures are grouped into broad categories based on end-use demand, and thus help to show long-and short-run changes in trade in terms of market sectors. Trade is thereby related to economic developments here and abroad. The 436-page volume costs $4 at the Govt. Printing Office or Commerce Field Offices.

A third new Commerce publication that can give directional pointers to traders is the 1970 edition of "U.S. Foreign Trade Statistics Classifications and Cross-Classifications." This Census study can be used as an aid to those examining the relationship between imports, exports and domestic output of various commodities, or in relating U.S. foreign trade to that of other nations. It relates, for example, the 10,000 import classifications of the U.S. tariff schedules and the 4,000 Schedule B export classifications to about 2,000 separate domestic product classes using SIC code numbers. Price: $6 per copy from the offices listed above.

Still another Commerce publication aimed at assisting the world trading community is the new, improved Schedule B, the Standard Classification of Domestic and Foreign Commodities Exported from the United States. The 1971 version contains many improvements over the previously-used 1965 format. The Schedule B listing contains the current commodity classification code numbers that are required on Shipper's Export Declarations. The publication is available at $10.50 from the offices described in the items above, and also from various Collectors of Customs.

International Trade Winds

INDUSTRIAL EQUIPMENT—The Cheston Co., Rancocas, N.J., and Metalectric Furnaces, Ltd., Droitwich, England, have entered into an exclusive licensing agreement for the design, manufacture and marketing of Cheston electric resistance heating equipment in the U.K. The resistance heaters, which will also be marketed in Europe, are used extensively in the forging industry.

MACHINE TOOLS—South Bend Lathe, South Bend, Ind., has licensed Talleres Nova Adalberto Plager S.A., Buenos Aires, to manufacture and distribute the South Bend line of Johnson mechanical presses in Central and South America. Talleres Nova, an established machine tool producer with its own line of metal forming equipment, will produce the Johnson presses at its Buenos Aires plant with technical assistance from South Bend Lathe, an operating unit of ARMSTED Industries.

MINING—American Metal Climax will participate in a $330 million joint venture to mine bauxite and produce alumina in the Kimberley region of Western Australia. AMAX will hold a 35 percent participation in the project, which includes Sumimoto Chemical Co., Showa Denko K.K., Holland Aluminum, N.V., and Vereinigte Aluminium Werke AG. Plans call for a complex to produce 1.2 million tons of alumina per year, with construction beginning in mid-1971 and plant start-up estimated for late 1974.

MARINE EQUIPMENT—Ellicott Machine Corp., Baltimore, will design, build and deliver a 24", 3,300HP hydraulic pipeline dredge to be used by Korea's Hyup Chin Tanker Co. in modernizing and expanding the Port of Inchon. The total contract, including discharge pipeline components, spare parts, engineering services, start-up supervision and training of Hyup Chin engineers in the United States and Korea, is approximately $1.5 million.

POLLUTION CONTROL—Carborundum has joined with Shoketsu Kinzoko Kogyo Co. in the formation of a new company headquartered in Tokyo. The firm, Japan Purification Co., will manufacture and sell pollution control systems and liquid process systems for the railroad, meat processing, poultry, food processing, paper and petroleum industries.

TIRE CORD—Chemtex Fibers Inc., New York, will design nylon tire cord facilities for the Taegu plant of its 50 percent-owned subsidiary, Korea Nylon Co. The nylon-6 units are to produce 5.4 metric tons per day of high-tenacity, heat-stabilized nylon tire cord and dipped nylon tire-cord fabrics. Production is due to begin early in 1972.

Chances For Sales Of Farm Equipment In E. Africa Seen

Market prospects that exist both now and in the long term were uncovered in Zambia, Kenya, and Ethiopia by a 7-man U.S. Agricultural Development Mission to East Africa earlier this spring.

In markets where the range of American products has been narrow the mission members met a substantial response to their offerings of pesticides; fertilizers; equipment for handling grains and feeds, for application of fertilizers, and for irrigation; equipment and supplies for poultry, swine, and cattle; mechanical lifting equipment; low-cost housing construction technique; and leasing of capital equipment and facilities.

Actions initiated during the mission's March 16-April 3 visit to Lusaka, Nairobi, Addis Ababa, and Asmara included the placement of orders, appointment of agents and distributors, preparation of quotations, arrangements for product testing, and establishment of licensing agreements. Product sales during the next 12 months are estimated at more than $2.5 million, with income from leasing and licensing capable of reaching several additional millions of dollars.

Impetus from survey

Impetus for the mission, which was directed by Milton A. Berger, Assistant Director of the Commerce Department's Office of International Investment, had come from the U.S. Survey and Consultation Mission to Africa in January 1970, led by then Deputy Assistant Secretary of Commerce Robert McLellan. The earlier mission was a joint government-business undertaking to investigate the medium- and long-term potential for U.S. business in the area and to help establish a basis for measures to aid the realization of this potential.

In Zambia the picture was one of impressive economic growth, largely supported by copper exports, a slowly growing agricultural sector, and a comfortable ballance of trade position. Transport routes from southern Africa are being reoriented; dependence on Rhodesian and South African imports is diminishing. Government participation in and control of Zambia's economy are increasing.

While the best sales prospects are in mining machinery and transport equipment, Government efforts to expand large-scale commercial farming through promotion of farm cooperatives, settlement schemes, livestock and dairy ranches and crop experimentation stations—along with the provision of tractor pools—present important prospects for U.S. exports of agricultural development goods.

As uncertainties about the Government's economic policies are resolved, including treatment of expatriate interests, American firms will find the Zambian market rewarding, particularly if the U.S. product presence is maintained through appointment of effective distributors. Investments in the form of agricultural management contracts, equipment leasing, and low-cost housing construction technique licensing proved worthy of exploration.

Kenya presented a sound and growing diversified economy, with agriculture predominant, but with tourism, manufacturing, construction and other sectors receiving important Government attention. Major exports are coffee, tea, petroleum products and cement, and foreign exchange reserves are more than adequate for immediate needs.

Direct U.S. investment amounts to about $100 million, primarily in construction, food processing, petroleum, pharmaceuticals, chemicals and farm equipment. Government officials emphasize that Kenya welcomes foreign investors who can assist in achieving its development goals. Under the terms of Kenya's investment code, such investors may remit profits and repatriate capital.

A member of the East Africa Community, Kenya maintains a common external tariff with Tanzania and Uganda, and a number of measures have been taken by these three countries toward economic coordination. Nairobi is the commercial metropolis of East Africa and serves as an attractive base of business operations in the area from the point of view of transportation and communications, among other factors.

Local import trade is dominated by large trading companies affiliated with British and continental European suppliers. Many of these are prepared to handle American lines, but U.S. suppliers will also have to take into consideration the capabilities of newer and smaller distributors, particularly in view of Government programs to favor Africans as opposed to non-citizens.

Agriculture and livestock dominate the Ethiopian economy. However, despite favorable climatic and soil conditions, only 15 percent of the arable land has been cultivated and the country has been hardly self-sufficient in foodstuffs. A high percentage of the peasant farmers operate on a share-cropper basis on small plots, and traditional crop output distribution arrangements provide little incentive for increased productivity and output.

The Government has stimulated some commercial farm development activity, but progress in land reform has been slow. There is considerable interest in American agricultural equipment and chemicals with some immediate sales prospects and more extensive possibilities in the medium term, depending on the pace of Government ac-

ETHIOPIAN NEEDLEWORKERS—*In Addis Ababa, mission toured handicraft production center. From left: Edward Bryant, U.S. Embassy; mission members John Pulsifer, P. J. Hurrah, Milton Berger; local businesswoman; Cloyce Palmer; John Savage, U.S. Embassy. The U.S. businessmen also visited Kenya and Zambia.*

tion in implementing U.S. and U.N. development aid loans.

The prevalence of high prices for coffee, Ethiopia's principal export, is providing adequate foreign exchange as well as Government revenues to meet the local cost requirements of foreign aid projects. There is considerable Ethiopian interest in expanding trade relations with the United States. Even though the aggregate market is only about $160 million, there appear to be opportunities for increasing U.S. sales—particularly transport, agribusiness, and construction equipment.

Members comment

Viewed against the foregoing assessment of the market in Zambia, Kenya, and Ethiopia for agricultural development and related equipment and supplies are the reactions of the mission members:

Jonathan T. Pulsifer, sales manager for Europe, Africa, and the Mid-East in FMC Corporation's International Chemical Division in New York, saw some sales opportunities for agricultural chemicals in Zambia through government tenders and to large commercial firms. About Kenya, he observed: "Agricultural chemicals are well-established and many opportunities exist, particularly for new products to replace the 'hard chemicals.'" And for Ethiopia, "Immediate sales of agricultural chemicals will have to be through Government tenders, UN Food and Agriculture Organization, U.S. aid, etc., and to commercial estates. Sales to peasant farmers are 5 to 10 years away and will not represent a big market."

Pulsifer also saw sales possibilities for water pumps, irrigation equipment, small sprayers and certain industrial chemicals in Kenya; and for food processing and packaging equipment, pumps, irrigation equipment, vegetable seeds, and industrial chemicals in Ethiopia.

Cloyce D. Palmer, vice president of Pamco, Inc., Oskaloosa, Iowa, manufacturers of bulk grain, feed and fertilizer handling equipment and irrigation sprinkler equipment, found keen interest in his products, with sales awaiting quotations and follow-up by distributors appointed during the trip. Speaking of fertilizer, Palmer says: "Fertilizer sales are a function of world price. European prices are generally 10 to 30 percent less, but our quality seems to be better. Freight costs are of utmost importance in being competitive."

P. J. Harrah, president, Bloomfield Manufacturing Co., Bloomfield, Ind., manufacturer of lifting jacks for agricultural, industrial and automotive applications and of an automatic hitch coupler, reports: "Assuming continuation of political stability in Zambia in the next few years, we can build a good market. An agent has been appointed and is ready to order. He needs only a c.i.f. quote." Respecting Kenya, he observes: "We expect our sales to grow in this area at a much faster pace due to the results of the trade mission."

Forest W. Lipscomb, Jr., vice president, International Division, Inc., of Springfield, Mo., manufacturer and exporter of equipment and supplies for animal and fowl feeding and handling, comments: "With respect to Zambia, the reception was good and positive interest was shown in several products. Future sales prospects here are favorable, although at present local citizens seem reluctant to further their own capital expenditures until government policies are better identified." The prospect was for the longer term in the other countries also, reflecting price and credit considerations in Kenya and the undeveloped stage of the poultry, egg, milk, and beef industries in Ethiopia.

Thomas A. Wood, president, TAW International Leasing, Inc., New York, lessor of capital equipment and facilities, found several excellent opportunities for medium-term leasing in agriculture, construction, transportation, mining and industrial production in all three countries. Government approvals, including that of investment guaranties by the U.S. Government, will be required before operations can be commenced.

Edward T. Dicker, president, Dicker Stack-Sack International, Dallas, signed agreements to license his concrete building process for low-cost housing in all three countries. Official and public interest was high. The picture on Page 31 shows Dicker (center) with a businessman in Addis Ababa (left) discussing the fine points of a licensing agreement; at right is an Ethiopian commercial assistant from the U.S. Consulate General in Asmara who came down to help.

First Quarter U.S. Trade Up Sharply, Surplus Lags

U.S. exports and imports expanded strongly in the first quarter of this year but indications are that the 1971 trade performance will not match that of last year.

Exports, excluding military grant-aid, were running at a seasonally adjusted annual rate of $44.9 billion in January-March, 4½ percent higher than in the final quarter of 1970. Imports advanced to $43.2 billion, an increase also of about 4½ percent. At a yearly rate of $1.7 billion, the merchandise trade surplus remained unchanged from the fourth quarter. In the full year 1970, the surplus amounted to $2.7 billion.

Compared another way, U.S. exports in the first three months exceeded the total recorded in January-March 1970 by 8.8 percent, while imports showed an increase of 11.2 percent. However, a review of shifts between the two latest quarters is more meaningful for analysis of recent trends. Thus, references to commodity changes in the rest of this article employ the latter comparison except as noted. Data are adjusted for seasonal variations.

The January-March export increase was the fastest since the second quarter of 1970, which was followed by a marginal advance in the third and a slight decline in the fourth quarter. The first quarter export rise was narrowly based, consisting entirely of gains in deliveries of transport equipment and agricultural products. Shipments of machinery and industrial materials—which contributed heavily to the 1970 export increase—leveled off, reflecting the reduced buoyancy of foreign business activity and the easing of demand pressures in some of our major markets, particularly in Western Europe.

The rise in imports was the largest since the recovery from the dock-strike in April-June 1969. The increase marked the sixth consecutive quarterly advance in U.S. foreign purchases. As with exports, the step-up in imports was not widely based, consisting mainly of consumer goods. The ratio of imports to the gross national product stood at 4.2 percent, about the same as in the fourth quarter. In 1970 as a whole, the import-GNP ratio was 4.1 percent.

Price trends in this country and abroad indicate that higher prices again contributed substantially to the first quarter increase in the value of both exports and imports.

Auto, aircraft exports strong

Following moderate declines in both the third and the fourth quarters of 1970, U.S. shipments of manufactured and other nonagricultural products rose by 3 percent, to $9.1 billion, in the first three months of the year. Stepped up exports of transport equipment provided nearly the entire gain from the previous quarterly level.

The 32 percent increase in exports of transport equipment resulted from two major developments. First, the end of the 67-day strike against General Motors permitted the resumption of shipments of automotive products to Canada by that producer. The relatively strong U.S. automobile demand also spurred exports of parts and accessories for assembly at Canadian plants into finished vehicles, most of which are shipped back for sale in this country. There was a pickup in automotive exports to other countries as well.

The other major factor in the expansion of transport equipment exports was a sharp rise, to $908 million, in deliveries of aircraft and parts. From four in the final 1970 quarter, the number of the new jumbo jets delivered to foreign airlines jumped to 13. The Netherlands, Italy, United Kingdom, Canada, and Japan were the major recipients.

U.S. exports of machinery showed only a moderate advance in the fourth quarter and declined in the first three months to about $3 billion. Compared with the January-March 1970 total, these exports rose by 9 percent. The recent sluggish performance can in general be attributed to the economic slowdown in foreign areas. The more significant export declines from fourth-quarter levels included computers and parts, farm machinery and, in electrical equipment, transistors and semiconductors. The one substantial increase was in sales of metalworking machinery, particularly molding and rolling equipment for steel-mill modernization programs in Western Europe and Latin America.

Foreign steel demand eases

U.S. shipments of steel and associated products were especially hard hit by the lessening of market pressures overseas. In 1970, particularly in the first half, these exports benefited greatly from the unusual boom in foreign demand. Steel shipments began to trend downward following their second quarter 1970 peak, and by January-March 1971 had fallen to about $200 million, two-fifths below their level in the comparable period a year ago. Sales of plates, sheets, and primary forms sustained most of the decline. Shipments to the

The accompanying analysis of U.S. foreign trade for the first quarter of 1971 was prepared by the International Trade Analysis Division of the Commerce Department's Bureau of International Commerce.

countries of the European Economic Community were reduced particularly sharply.

The slowdown in foreign steel demand was also evident in the performance of steel scrap and coal exports. Shipments of the former commodity fell substantially from the fourth quarter, mostly in movements to Japan, Spain, and Sweden. Coal exports, mainly of the coking variety, were maintained at the high October-December rate, as price increases offset the reduction in quantities delivered.

Among nonferrous metals, shipments of aluminum dropped in response to an increase in foreign supplies combined with weaker demand. The decline affected mainly deliveries of lower priced ingots to Belgium, France, and Japan. On the other hand, copper exports rose to higher levels, possibly reflecting the reduction of export availabilities in Chile which led to shortages in Western Europe.

The trend in chemical exports has been relatively flat in the last two quarters; in January-March 1971 these shipments amounted to $934 million. Deliveries of organic chemicals contracted sharply from the fourth quarter in response to larger supplies in Europe. On the other hand, manufactured fertilizer shipments picked up somewhat in January-March following a relatively sluggish performance in the two preceding quarters.

Farm exports strong

Shipments of agricultural commodities increased strongly to $2.1 billion in the first quarter. This total was $174 million higher than in October-December and $383 million above the first quarter 1970. Large advances in soybeans and soybean products, cotton, and tobacco accounted for this good export showing.

The sharp rise in soybean exports, to $338 million, was related to lower world supplies of competing oilseeds. Most of the increase went to Western Europe. Cotton exports advanced substantially under the impact of continued shortages abroad. Deliveries to India, Japan, Hong Kong, and Taiwan were especially buoyant. The 30 percent advance in unmanufactured tobacco exports appeared to reflect inventory adjustments in the United Kingdom and the EEC countries.

Grain exports generally declined in the first quarter. Corn deliveries fell 10 percent, partly because of a shift in foreign demand to lower priced grain sorghums. Wheat sales also dropped after reaching high levels in the fourth quarter. In contrast, barley exports increased from almost nothing in January-March 1970 to $28 million in the first quarter as European purchases soared following a poor harvest in that area.

Consumer imports lead

Virtually all of the January-March increase in imports over the final quarter of 1970 consisted of greater purchases of consumer goods. At $3.8 billion, these arrivals climbed 15 percent over their level in the preceding three months and were one-fourth higher than in January-March 1970. Receipts of automotive products accounted for most of the import increase. Nonautomotive products continued to enter in greater volume, even though U.S. expenditures on these items showed no change. In the first quarter, purchases of consumer goods (excluding autos from Canada) constituted 5.4 percent of personal consumption outlays, up from 4.9 percent in all of 1970.

The increase in automotive imports from Canada was in large part due to the recovery from the GM strike late last year. Arrivals of both new cars and parts and accessories climbed steeply as production was resumed on both sides of the border.

Demand for foreign-type cars continued strong, stimulating another rise in these imports from West Germany and Japan. This was the fifth consecutive quarterly increase in these arrivals. Sales of imported non-Canadian cars accounted for 15½ percent of total U.S. car sales in the first quarter, slightly higher than last year's share.

After only a small rise in 1970, reflecting a sluggish domestic market, imports of television sets advanced vigorously. Likewise, receipts of radio sets increased after showing a declining trend throughout last year.

Imports of apparel followed a fourth quarter surge by setting all time record highs in January-March. Footwear arrivals continued on their long uptrend.

In contrast, purchases of sound recorders, toys, and sporting goods, which scored important gains in 1970, showed little change from fourth quarter levels.

Capital goods sluggish

At $1.2 billion, imports of capital goods showed little change. The relatively slow growth of these purchases in the past two quarters was in line with the sluggishness of U.S. plant and equipment expenditures which have not advanced since July-September 1970. Capital goods imports (excluding Canadian-built trucks) constituted 5.8 percent of producer's durable equipment outlays in the first quar-

U.S. Foreign Trade: Quarterly Trends

Millions of dollars, seasonally adjusted

Period	Exports*	Imports	Balance
1971			
1st qtr.	11,240	10,809	+431
1970			
4th qtr.	10,758	10,333	+425
3rd	10,845	10,029	+816
2nd	10,800	9,867	+933
1st	10,328	9,719	+609

*Excluding military grant-aid

ter, roughly the same proportion as in 1970.

Most of the increase in arrivals of capital goods from the fourth to the first quarter consisted of a greater inflow of trucks from Canada, representing a sharp recovery from strike depressed levels. In contrast to the strong gains posted in 1970, imports of machinery held even. Purchases of textile machinery climbed briskly, but receipts of most other types of machinery leveled off or declined.

A rise in entries of parts and accessories from the United Kingdom and Canada accounted for most of the increase in aircraft imports.

Materials imports drop

Despite the first quarterly rise in U.S. industrial production since July-September 1969 plus heavy demand for foreign steel, imports of industrial supplies fell back this year following a strong performance in the final half of 1970. At $3.9 billion, these purchases dropped 3 percent from their fourth quarter level.

Purchases of crude petroleum from most major suppliers dropped, but particularly large declines were noted in arrivals from Libya and Venezuela. On the other hand, purchases from Canada continued to climb. That country now accounts for over half of our crude oil imports compared to only one-fourth in 1966. Purchases of residual fuel oil fell sharply after a steep rise in 1970. High stock levels were probably responsible for the decline.

The inflow of copper declined from the levels reached late last year and was also lower than in the first quarter of 1970. Some of the drop represented a fall in prices. Entries of nickel also declined, after a steady climb in 1970. Arrivals of aluminum, however, recovered sharply from their sluggish trend through much of last year but remained below January-March 1970 values.

On the other hand, imports of iron and steel-mill products, which spurted in the final quarter of last year, rose again in the first three months of 1971. The increase reflected considerable strike-hedge buying in anticipation of the expiration of steel labor contracts on July 31, coupled with greater export availabilities in foreign steel-producing countries due to a slackening of demand abroad.

Imports of lumber reversed last year's sharp decline with a strong increase in the first quarter. The rise was attributable to the recent marked improvement in residential construction. Virtually all of the advance was in softwood grades from Canada.

Imports of foods and beverages totaled $1.5 billion, unchanged from their level in the fourth quarter last year. After rising steeply in the first three months of 1970, food imports showed no growth in the remainder of the year.

With prices generally stable, coffee imports in the first quarter were little changed from last year. Purchases of sugar climbed higher but fish imports fell from fourth quarter levels. Entries of meat declined considerably compared to the exceptionally high total in the first quarter of 1970, but were about even with the level in the rest of the year.

Area trade

The exchange of goods with Canada, the United States' largest trading partner, expanded rapidly in the first three months. To a large extent, this advance from

U.S. Exports Of Principal Commodities

January–March 1970 through January–March 1971

Millions of dollars, seasonally adjusted

Commodity	1970				1971
	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.
Nonagricultural products, total	8,590	9,042	8,979	8,812	9,119
Machinery	2,716	2,758	2,948	2,988	2,964
Computers and parts	227	274	302	304	281
Metalworking machinery	90	100	112	94	117
Construction, excavating, and maintenance equipment	110	103	102	122	106
Telecommunications equipment	158	159	157	186	162
Tubes, transistors, and semiconductors	131	140	133	136	125
Transport equipment	1,602	1,816	1,554	1,535	2,028
Civilian aircraft	386	490	285	345	502
Automotive parts	433	421	404	350	501
Passenger cars	159	287	265	144	258
Trucks	120	107	118	105	124
Other nonagricultural products	4,272	4,468	4,477	4,289	4,127
Chemicals	1,001	964	927	941	934
Coal	211	224	248	273	277
Iron and steel*	335	387	305	244	199
Iron and steel scrap	99	138	105	104	71
Copper*	93	114	77	75	90
Aluminum*	111	100	75	73	55
Paper and paper products	158	158	154	152	175
Pulp and waste paper	103	122	136	140	106
Agricultural products, total	1,738	1,758	1,866	1,947	2,121
Soybeans	280	336	365	273	338
Wheat*	229	227	242	313	283
Corn	187	212	220	205	185
Rice	64	70	85	92	52
Unmanufactured tobacco	123	122	106	133	173
Cotton	96	107	56	128	158

* Not seasonally adjusted

U.S. Imports Of Principal Commodities

January–March 1970 through January–March 1971

Millions of dollars, seasonally adjusted

Commodity	1970				1971
	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.
Industrial supplies and materials, total	**3,681**	**3,662**	**3,773**	**3,995**	**3,893**
Iron and steel	432	459	503	625	662
Crude petroleum*	383	345	344	377	347
Residual fuel oil	248	253	264	276	240
Textile yarns and fabrics	272	275	270	322	323
Industrial and agricultural chemicals	204	212	204	216	233
Lumber	124	122	121	135	146
Copper*	116	142	143	128	107
Nickel	70	71	85	92	80
Aluminum	77	55	53	54	70
Consumer goods, total	**3,063**	**3,176**	**3,243**	**3,286**	**3,770**
Passenger cars	897	973	923	932	1,177
Automotive parts and engines	325	369	411	396	485
Clothing	309	302	307	345	379
Footwear	138	154	168	172	183
Radio receiving sets	124	123	120	114	136
Television receiving sets	75	82	83	76	101
Foods and beverages, total	**1,552**	**1,563**	**1,490**	**1,550**	**1,550**
Coffee*	302	316	291	303	308
Meat	289	241	245	244	247
Sugar	178	183	189	178	200
Fish	185	195	202	211	190
Capital equipment, total	**1,081**	**1,128**	**1,152**	**1,156**	**1,165**
Machinery	873	897	898	925	931
Trucks, buses, and special vehicles	165	179	209	181	175
Civilian aircraft and parts	43	52	45	50	59

* Not seasonally adjusted

the fourth quarter reflected a pickup in movements of automotive products in both directions following the auto strike. Exports to Western Europe were unchanged from October-December as a rise in agricultural exports was offset by lower shipments of nonagricultural products. Imports from Western Europe, particularly cars from the Common Market countries, continued to climb. While both agricultural and nonagricultural exports to Japan fell, the inflow from that country trended upward, stimulated by greater car arrivals. A large falloff in military shipments to Australia caused a decline in exports to Oceania. Imports from that area also fell, partly because of a reduction in receipts of beef.

Trade with many of the developing areas declined in the first three months. Although exports to Africa—led by civilian aircraft sales—and the Near East showed sizable gains, exports to other developing areas sank to lower levels. Imports from the economically less advanced group of nations also contracted, with the exception of arrivals from the American Republics which showed a slight increase.

Agribusiness Unit Finds Sales Leads In Latin America

A substantial expansion in his firm's sales of popcorn is what one mission member was predicting when he returned from the Midwest Agribusiness Trade Mission earlier this year.

The mission, organized by the Midwest International Trade Association and coordinated by the International Department of the Omaha National Bank, reported contacts with at least 200 potential customers in the four countries visited: Mexico, Costa Rica, Panama, and Colombia.

Four agents were appointed and six more are under negotiation, according to Mission Director John Andresen, International Officer of the Omaha National Bank and president of the sponsoring association. Direct and 12-month sales are estimated at more than $80,000—plus the popcorn exporter's.

Make farm supplies

The selling mission included executives of companies that manuture such equipment as grain drying and storage facilities, fertilizer sprayers, self-propelled irrigation systems, portable livestock scales, and other farm machines. A State government representative accompanied the group.

The businessmen reported that they found attractive markets with growth potential. Some members evaluated existing distributors and visited with competing distributors; others viewed the mission as a "stepping stone" to a more concentrated effort in a specific market; still others closed sales.

Tours of an agricultural equipment plant and a foundry in Mexico, a coffee and sugar plantation near San Jose, and the Institute of Colombia Agriculture in Bogota were among those taken by the group. Participants talked with Government agriculture and trade officials in the various countries visited.

The Midwest mission was approved by the Commerce Department under its industry-organized Government-approved missions program. This was the first such mission to be sent out under the auspices of the Midwest association.

U.S. Agencies Announce Three Actions Affecting Trade With Mainland China

Three actions affecting U.S. trade with the People's Republic of China have been announced by the Commerce, Transportation and Treasury departments.

Commerce and Transportation on May 7 jointly issued a modification of Transportation Order T-2 to permit U.S. carriers to transport commodities authorized for consignment to the People's Republic of China (PRC) to non-PRC ports. The relaxation would apply to goods authorized for consignment to PRC under the provision of either a general or validated export license issued pursuant to the Export Administration Act of 1969. It also applies to foreign-origin commodities properly authorized by the respective foreign government for consignment to the PRC that are on the Commerce Department General License List for the PRC.

This change does not apply to North Korea nor to the Communist-controlled area of Vietnam. It should also be noted that ships documented under the laws of the United States or aircraft registered under the laws of the United States continue to be prohibited from calling at ports in the PRC, North Korea, or the Communist-controlled area of Vietnam.

Commerce also announced May 7 that effective immediately validated licenses will no longer be required for bunkering and other servicing of carriers of the People's Republic of China (PRC), or of the Eastern European countries, nor for vessels and aircraft enroute to and from the PRC.

This relaxation of export controls, incorporated in Export Control Bulletin No. 44, does not, however, alter the restrictions relating to carriers owned by, registered in, or chartered or controlled by North Vietnam, North Korea and Cuba, as well as any vessels and aircraft engaged in trade with those countries.

Restrictions on servicing PRC-owned or PRC-chartered carriers bound to or from North Vietnam, North Korea or Cuba, also remain in effect.

Treasury announced, also on May 7, the issuance of a general license removing all controls on the use of dollars or dollar instruments in transactions with the PRC.

The new general license replaces the previous specific licensing procedure which had been in effect since December 1950. Dollars and dollar instruments may now be used in all transactions with the PRC initiated on or after May 7.

The amendment does not pertain to those accounts in the United States which have been blocked under the Treasury's Foreign Asset Control Regulations. These accounts, estimated to total 70-75 million dollars, will remain blocked.

Treasury's Foreign Assets Control regulations were also amended to remove the prohibition against American-controlled foreign-flag vessels calling at PRC ports.

The relaxations reflect President Nixon's intention, announced April 14, to make several changes in restrictions on trade and travel relative to the PRC in an effort to create broader opportunities for contacts between the Chinese and American peoples.

Earlier, on May 1, Commerce acted to ease controls on the export of commodities to Romania. Details, including a list of products for which a validated export license is no longer required, are provided in Export Control Bulletin No. 43. This Bulletin, and Bulletin No. 44 mentioned above, are available for 40 cents each from any Commerce Field Office or Sales & Distribution, room 2119, U.S. Department of Commerce, Washington, D.C. 20230.

DON'T MISS THE

U.S. TRADE PROSPECTS

WITH

- Africa
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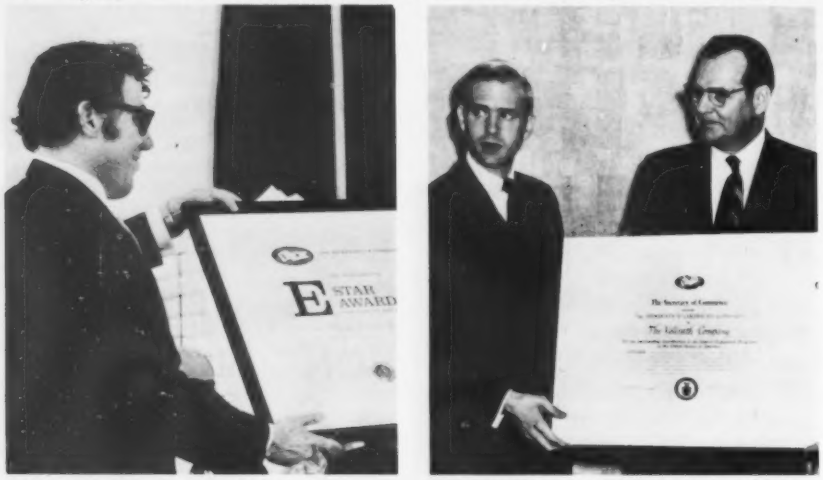
IN THE

WORLD TRADE OUTLOOK

Special Issue of
July 12, 1971,

Commerce Today

KAISER'S STAR—*With the "E" Star are Philip M. Creighton, Director, San Francisco Field Office, A. W. Parker, Oakland World Trade Club, Lloyd A. Amos, Kaiser.*



THUNDERBIRD AND VOLLRATH—*Dr. Robert Delaney, far left, holds the Thunderbird Graduate School's "E" Star, while in the right picture, Representative William A. Steiger and Paul V. Rohling, Vollrath's President, exhibit the Wisconsin firm's "E".*

MEYER MANUFACTURING—*Admiring the packaging machinery maker's "E" Star citation are George L. N. Meyer and Robert G. Dettmer of the company, James H. Goss, and David F. Howe, Director of the Commerce Milwaukee Field Office.*

Seven More Firms Now Flying New 'E' And 'E' Stars

Five manufacturers, one educational institution and an agricultural cooperative are flying new "E" and "E" Star flags over offices from New York to California and Wisconsin to Arizona.

A manufacturer of hospital utensils and food service equipment, the Vollrath Co. now flies an "E" flag over its Sheboygan, Wis., plant. In 1963, Vollrath established a foreign marketing program. The firm then developed its own distributor network, began researching markets and performing customer evaluation studies.

Kaiser Aluminum and Chemical Corp. of Oakland, Calif., was presented with an "E" Star for export sales of aluminum. Other overseas activities of the firm include manufacturing and development operations in 21 countries.

For substantially expanding sales of high speed packaging machinery, the George J. Meyer Manufacturing Co., division of A-T-O Inc., Cudahy, Wis., was presented with an "E" Star. The firm increased exports by establishing manufacturing subsidiaries in France and Mexico, and sales companies in Australia, Canada and three European nations.

The Thunderbird Graduate School of International Management, Glendale, Ariz., for its continuing efforts in the field of education, received an "E" Star.

Three other "E" Star award recipients were: Kenbert Lighting International Corp., Bronx, N.Y., a manufacturer of lighting fixtures and subsidiary of Kenbert Lighting Industries; Plymouth Rubber Co., Inc., Canton, Mass., maker of rubber coated fabrics and plastic films; Sunkist Growers, Inc., Sherman Oaks, Calif., a non-profit agricultural cooperative marketing association for citrus products.

Trade Fairs, Centers

U.S. Catalog Displays Spark Sales Leads For 1,368 U.S. Firms

For 1,200 American manufacturers, displaying their product line in Kuala Lumpur, Malaysia, was as close as the nearest mail box. These firms participated in a Commerce-organized U.S. Industrial Catalog Show in the Malaysian capital, staged in cooperation with an Engineering and Industrial Trade Exhibition sponsored by the Technical Association of Malaysia.

The U.S. concerns mailed to Commerce approximately 2,500 catalogs of equipment in four industrial categories such as plant engineering and materials handling equipment. Commerce then assembled the literature and shipped it to the exhibition site.

The catalog show drew about 500 visitors daily and closed with 253 trading opportunities developed for 162 companies.

The Malaysian show, in March, followed another U.S. Catalog Show in Oporto, Portugal, featuring building materials information. Data from 168 U.S. firms were on view for the visitors during the event.

Brussels, Tokyo Planning Fairs For September, Next May

From Sept. 14-18, Brussels will host the Second International Municipal Equipment Exhibition, featuring equipment for lighting, transportation, cleanliness, building and grounds upkeep, education, and trading and public services organizations. Write the fair's office at: Administrative Headquarters, Palais Centenaire, 1020 Brussels.

The Second Tokyo International Good Living Show will be held May 4-14, 1972, at Tokyo's Harumi Fair Grounds. Exhibits for this event will include building materials, products for interior decoration, housing equipment and instruments, and home appliances. Due to a projected boost in demands for prefabricated and modular housing, certain U.S. building materials, techniques and equipment should have good market potential. Write to: Tokyo International Trade Fair Commission, C.P.O. Box 1201, Tokyo. Applications for space must be received by Sept. 14.

CATALOGS DE DOS ESTADOS UNIDOS—*A catalog exhibition in Oporto, Portugal, attracted a large number of visitors to the equipment facts and figures on 168 American manufacturers.*

U.S. INDUSTRIAL EQUIPMENT—*Literature from 1,200 U.S. industrial equipment manufacturers was seen by 6,000 businessmen during a catalog exhibit in Malaysia.*

Auto Equipment Makers To Exhibit In Frankfurt Show

In Germany, where there are 15.5 million registered motor vehicles, 24,000 repair shops and mandatory vehicle inspection, the market for automotive accessories and garage and diagnostic equipment is increasing.

AUTOMECHANIKA '71, sponsored by the Frankfurt Fair Authority and the German Automotive Accessories Association and the Garage and Diagnostic Equipment Association, will be mounted on the Frankfurt Fair Grounds, Sept. 18-26. All types of auto accessories and service and repair equipment will be on view.

The U.S. display at the event will be sponsored by the U.S. Motor and Equipment Manufacturers Association with the operational assistance of the Commerce Department, which will provide full staff support from the U.S.

ULTRASONIC CLEANING—*A part cleaned by a Westinghouse device is examined by three Italian visitors at a metal finishing and surface treatment show in Milan.*

Trade Center in Frankfurt and a complete pre-show promotional campaign.

Germany is the third largest auto producer, behind the U.S. and Japan. For 1970, more than 3.5 million passenger cars were manufactured in Germany, as well as over 314,000 other vehicles such as trucks and buses.

Contact William A. Raftery, MEMA Bldg., 304 W. 58th St., New York, N.Y. 10019 (212-265-4544).

Abcor Finds Buyers, Agent At Milan Show In March

Metal finishing and surface treatment equipment and supplies were on view at the U.S. Trade Center in Milan, Mar. 8-13, and were seen by 1,534 businessmen. More than $3.2 million in first year sales are anticipated by the 38 exhibitors.

Seven companies were seeking representatives through the show. Two concluded agreements, and the other five were negotiating for 17 additional posts, including one in Spain.

Italian automotive and paint firms found interest in the membrane ultrafiltration equipment for recovering paint by Abcor Inc., Cambridge, Mass. Entering exporting for the first time, Abcor named an Italian agent and predicted future orders for the coming year of $226,000.

Heating, Cooling Show Draws Buyers

Of the 33 exhibitors in a heating, air conditioning and refrigeration show at the U.S. Trade Center in Tokyo, 15 reported $100,000 or more in projected first year sales, and 29 introduced new products to the Japanese market.

More than $4.2 million in orders are expected during the first year following the Mar. 22-27 show. Eleven exhibitors were interested in contacting potential agents and distributors for the Orient; three were appointed and by the show's conclusion 39 prospects were under review.

The number of registered visitors reached 2,824. Almost a quarter of the audience rode to the Center on a mini-bus which provided regular transportation between the U.S. show and the simultaneous Japan Refrigeration and Air Conditioning Exhibition in Tokyo.

With $1.2 million, Chrysler Airtemp Div., Chrysler Corp., Detroit, reported the highest show sales.

GOOD AND COLD—*Booth Inc. provided customers with samples from its satin ice and beverage dispensing unit. The tasting occurred during an exhibition of air conditioning, refrigeration and heating equipment in Tokyo at the U.S. Trade Center.*

Consumer Demand To Spur Canadian Economic Revival

Canada's economy should pick up steam as 1971 wears on after a year of relatively slow growth. Gross national product should increase by about nine percent—5½ percent in real terms and about 3½ percent in price increases, compared to 3.3 percent real growth and a price factor of 4.1 percent in 1970.

The U.S. Embassy in Ottawa reports that federal fiscal policy has become increasingly expansionary since mid-1970 as the Government changed its emphasis from fighting inflation to boosting employment. The Federal Government increased its projected spending several times during 1970, shifting from a budgetary surplus to a deficit.

Fiscal year 1972 estimates, introduced in Parliament in February, showed budgetary expenditures totalling C$ 14.4 billion, up 7.5 percent over estimated spending in fiscal 1971. The increased spending goes mainly into provinces such as Quebec where unemployment has been higher and economic growth slower than the national average. Federal, provincial and local governmental operating expenditure is expected to lead the rise in GNP in 1971, as it did in 1970, although the rate of increase may be slightly less than last year's 15.5 percent.

Monetary policy has been eased since mid-1970 as the Bank of Canada dropped its rate from 8 percent in May, 1970, to 5.25 percent in February of this year. The decline both stimulates the domestic economy and deters inflows of funds which buoy up the exchange rate. The easing particularly helped revive housing as interest rates on conventional mortgages fell from a peak of 10¾ percent in 1970 to 9¼ percent early this year.

Following the cuts in the Bank Rate, the chartered bank prime rate was reduced from 8.5 percent to 6.5 percent, and bank loans, seasonally adjusted, rose at an annual rate of about 10 percent in the nine months ending in February, 1971. In the same period, money supply increased at an annual rate of about 12 percent, seasonally adjusted.

In a buying mood

Consumer confidence is increasing, according to a recent survey. After rising only 5.3 percent in 1970, personal expenditures are expected to grow almost 8 percent in 1971, with even larger gains for cars and appliances. Large business firms plan to invest more in plant and equipment in 1971 than last year, but the increase for all firms may be slightly less than the 8 percent rise indicated in the national accounts figures for 1970. Both consumer and business spending should add to the demand for imports.

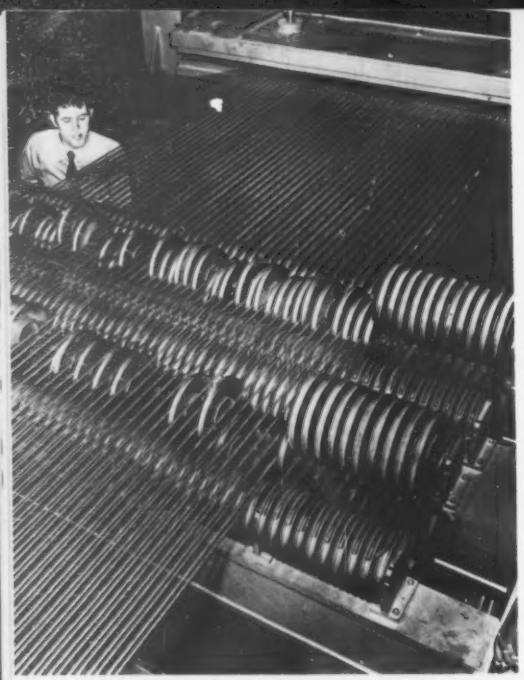
Exports again will stimulate the economy, although their growth is likely to be less than the 13.1 percent recorded in 1970. As U.S. economic growth quickens, sales to the United States, which last year accounted for almost two-thirds of Canada's exports, will probably rise more than their 3.5 percent increase in 1970. At the same time, total Canadian imports, which dropped 1.4 percent in 1970, should rise even faster than exports in 1971, as Canadian demand grows. Imports from the United States should lead the gain after falling 3 percent in 1970.

While Canada's trade and balance of payments surpluses will almost certainly be less than last year's records of C$ 3 billion and C$ 1.3 billion, respectively, how much so will be influenced by the exchange rate of the floating Canadian dollar. In the first three months of 1971, the dollar held up well above US$ .99, compared to the par value of US$ .925 before June 1, 1970, when the float began.

The strong trade position and continued inflows of long term capital are likely to maintain the upward pressure on the exchange rate. The authorities apparently believe that the rate will ease eventually and seem to be in no hurry to fix a new official rate.

The exchange rate is squeezing some exporting firms, notably in the pulp and paper industry, but over-all corporate profits before taxes are expected to rise about 4 percent, after dropping 6.2 percent in 1970. The general growth of

CANADA'S MICA DAM—*A 65-ton Lima crane is used for rock excavation in British Columbia's two-million kilowatt project scheduled for completion in 1973.*



ONTARIO TO ALBERTA—*This 2,000-foot steel-cable conveyor belt being inspected at Goodyear's Ontario plant is for oil "mining" in northern Alberta.*

demand, the absence of a major strike like the one at General Motors last year, and some easing of cost increases, particularly on the wage side, should help profits.

The average increase in wage rates negotiated under union contracts in 1970 was a record 8.8 percent, but labor demands seem to be easing as the proft squeeze has stiffened business resistance and unemployment has continued at a high level. While total labor income is expected to climb at about the same 8.9 percent rate as it did last year, part of this will stem from an anticipated increase of about 2.5 percent in employment to match a similar rise in the labor force. Average unemployment during 1971 is expected to run at about the 5.9 percent rate of 1970, but the rate may ease slightly during the year as the economy gains momentum.

Another factor which may diminish wage increases is last year's slower rate of price rises. The consumer price index (CPI) rose only 3.3 percent in 1970, down from 4.5 percent in 1969, and the index in February, 1971, was only 1.7 percent higher than a year ago, with most of the deceleration accounted for by a drop in food prices. Nevertheless, these are expected to pick up again this year, and the CPI may begin to rise somewhat more rapidly than it has been doing in recent months.

In contrast to last year's virtual stagnation, Canadian imports from all sources should be up by at least 8 percent. The United States ought to enjoy a somewhat higher rate of sales, which could bring total U.S. exports to Canada to about C$ 10.5 billion. The appreciating Canadian dollar has lowered the cost of imports, but there has been no increase in import demand in 1970. As the current year moves along and the two currencies remain close to parity, the exchange rate should reinforce other influences swelling imports.

Accordingly, there is a good chance that the United States can regain this year the slight loss in its share of total Canadian imports. Even the 1970 share of about 71 percent was, of course, a formidable one, continuing to make Canada our largest single export customer, and the United States by far Canada's main source of imports. This volume of sales and the across-the-board range of products imported here suggests that the new-to-export firm in the United States should make Canada one of its first targets.

Backed by a high level of savings, unused personal credit resources, improved market values in the American and Canadian stock markets, lower interest rates and an appreciable slowdown in price increases, new consumer confidence should be reflected chiefly in purchases of new homes, the smaller passenger car and other durables, such as furniture and appliances.

Although the Government would like to bolster secondary manufacturing, the foundation for major growth in the Canadian economy will probably continue to be in resource and energy development. U.S. suppliers in these fields should therefore be giving the fullest attention to Canadian requirements for capital goods and related services. Rough calculations show that close to half of all Canadian investment expenditures in machinery and equipment are for imported products and for the most part are from the United States.

One million new homes

A revival in residential construction is one of the biggest features on the economic scene. Housing starts should number about 210,000, up 15 percent from 1970 and close to the national record in 1969. If the estimates materialize, the new building pace will be in keeping with the Federal Government policy to facilitate the starting of one million homes from 1970 through 1974, chiefly for low and medium-income families. Apart from the obvious stimulus to construction materials, builders' hardware, home appliances and furniture, dwelling construction intentions are giving a boost to a growing industry in package environmental control units for new and old homes.

Other areas pinpointed by the Embassy as offering promising sales opportunities include: commercial and government construction projects; oil and gas pipeline construction; exploration, development and processing of minerals; and abatement of industrial air and water pollution.

A study of foreign ownership, whose completion has been delayed by the need to adapt government policy to investment needs in different regions and industries, may be ready this summer. The result may be new policy guidelines. Meanwhile, concern continues to be expressed by various portions of the press, business and political communities over the extent of foreign investment in Canada and the dominant share held by the United States.

Battle Is On For Bigger Share Of Colombia Market

New challenges and possibilities for increased sales to Colombia greet the U.S. exporter at mid-1971, reports Hal Ryerson, Commercial Attache at the U.S. Embassy in Bogota.

Colombia's total import registrations have grown from $507 million in 1967 to $930.2 million in 1970, with a further increase projected for the current year. The U.S. share of total registrations stood at 45.6 percent at the end of November 1970, approximately the same level as the U.S. share in November 1969.

In dollar terms the increase in U.S. sales has been considerable; $287.7 million in 1968, $348 million in 1969 and an estimated $420 million for 1970. Most important is that in spite of a very hard sell from other European (including bloc) countries and the Far East, the United States has been able to maintain a fairly steady share of the Colombian market.

Improved economy

The increased import volume is related directly to improvement in Colombia's balance of payments and international reserves, higher coffee prices through 1970, and a GNP growth rate of 6-7 percent annually. Exports are expected to increase moderately during the current year. With the steady improvement in its economic condition the Government has increased the number of imports on the free list, while reducing prior import deposits and duties on other products.

However, the total increase projected for 1971 is not as high either in percentage or in dollar terms as prior years. Colombia, at a reimbursable import rate of approximately $65 million per month, can meet its needs for stable economic growth without the rapid increases in imports of former years.

The challenge to the U.S. exporter is the strong competition from other countries coupled with financing arrangements through government and private banks that tie purchases to local procurement in each country. The U.S. move away from tied procurement, now permitting purchases under A.I.D. non-project loans in less developed countries, may mean greater competition for A.I.D. funds from other than U.S. suppliers. Competition is also being felt from foreign-based U.S. subsidiaries which are finding themselves competitive in Latin America.

Need will increase

More U.S. exporters should carefully study the Colombian market. With a growing population, now well over 21 million, and a growing industrial complex with concomitant benefits of higher employment and purchasing power, the need for many non-luxury items will increase. Careful study should be made of the increased list of free imports. U.S. exporters should be alert to the financial and insurance programs of the Eximbank. The possibility of joining trade missions should be studied, as well as possible participation in the 1972 Bogota Trade Fair.

The battle is on for the Colombian market and only the exporter using every technique, offering service, and exploiting the best financial arrangements can survive. It is a buyers' market and indifference to it will not keep clients nor create new ones.

Licensing controls continue but are less rigid due to the improved reserve position and general economic stability. Products under prior license requirements are those considered essential for economic growth.

With a spotty history of economic stability in recent years, except for the 1966-1970 period, the inflow of foreign investment has not been commensurate with Colombia's economic growth. Permits for new foreign investment totaled $18.5 million in 1967, $20 million in 1968, $25 million in 1969, and approximately $40 million in 1970, including the new nickel development of some $29 million. This is hardly a mad rush to invest, but does show a growing interest in investment in Colombia.

Law 444 of 1967, while not ideal from an incentive standpoint, has proven viable; it is not considered as attractive as investment laws in some other countries, but in relative terms in Latin America it is acceptable.

However, the new Foreign Investment Code of the Andean Group modifies the rules of the game in some respects, and care should be taken to consider what the ramifications may be for future investment or re-investment. Colombia's traditional equal treatment of foreign vis-a-vis national investment appears seriously threatened by the Code, which may have to be considered by the Colombian Legislature. The investor must decide with this in mind.

HEADED FOR COLOMBIA — *U.S. cement-making equipment is loaded at Milwaukee for shipment to plant in Medellin.*

Opportunities For U.S. Sales Mount In Singapore's Burgeoning Market

"Burgeoning" is the word for Singapore's economy, says Charles T. Prindeville, Commercial Officer at the U.S. Embassy there, as the island republic moves to press its advantages and gird for Southeast Asia's future. Reduction of the British garrison (which spent about $120 million here in 1970) to a token force by the year's end, and the growing fact of U.S. reduction of forces in the area seem only to strengthen Singapore's determination. Although one effect has been to divert a third of the nation's revenues to defense, Singapore nevertheless continues its substantial investments in infrastructure and modernization, a program enabled by its mounting gross domestic product (up 15 percent in 1970), efficient collection and use of official revenues, and excellent international credit rating, abetted by an impressive flow of investment capital from abroad.

Big U.S. gain

Total 1970 imports into the heavily trade-oriented republic totalled U.S.$2511.3 million, up 21 percent from the previous year. For the first time Japan, with $486.0 million, led West Malaysia as Singapore's leading supplier. Probably following fourth after Indonesia was the United States, selling $271.6 million, an impressive 65 percent above 1969's $164.7 million. Britain, Australia and West Germany also made impressive gains, while imports from Mainland China fell 8 percent.

Although less ambitious than Japan's recent triple-play of floating trade fair, investment team and industrial exposition (the last featuring products from 140-plus firms), Australian, Indian, Israeli, Danish and Italian trade missions, as well as a British engineering seminar, have evidenced growing interest in Singapore as a market. Oncoming promotional activities include trade missions from Canada, Holland, the Philippines and New Zealand, plus a major engineering-products exhibition from Britain.

South Korea has set up a new Singapore trade center, and the Japan Ship Machinery Export Association has joined hands with Intraco, Ltd., the republic's state trading company, to set up a machinery service center. Likewise, a second U.S. construction equipment firm has established a regional parts depot cum training school, and other American machinery makers are considering the regional-warehouse gambit. On the retail side, Tokyo's Isetan department store announced plans for Singapore as its first overseas site.

Americans continue to dominate the petroleum exploration and development business, with products ranging from safety helmets to service ships. U.S. chemical companies, rig fabricators, seismic teams and a host of allied firms have chosen Singapore as their base for the task of exploring Southeast Asia's enormous continental shelf. New refinery construction continues to go to Japanese firms, who offer packages (including marketing of refinery product through related trading companies) which U.S. firms seem unable to match. U.S. designers/fabricators should be aware, however, that virtually all of Singapore's existing refineries have important expansion plans.

With a few notable exceptions, U.S. consumer goods manufacturers are seemingly uninterested in this increasingly affluent market. With a per capita GDP of nearly $900 (the second highest in Asia), one Singaporean in nine owns a radio set, one in fifteen a television receiver, and one in sixteen an automobile; two million Singaporeans paid $296 million for food and $160 million for clothing and other personal effects last year. Cosmetics, high-styled clothing and other with-it goods (including dune-buggies) are increasingly popular. Demand for U.S. specialty foods reflects the growing advent of American tourists and expatriate businessmen, plus a subtle change in Singaporean tastes.

The republic's government, whose revenues in recent years have risen about 25 percent annually without important tax increases, is busily upgrading the infrastructure. Collections of income, property and stamp taxes will increase impressively this fiscal year ending Mar. 31, while expanding turn-over boosted customs collections nearly 20 percent in 1970.

Multitude of possibilities

Singapore's well-managed and highly viable statutory boards have announced record earnings and broad development plans that should alert U.S. engineers and equipment makers to a multitude of sales possibilities. The Public Utilities Board, with $66 million total income in 1970, will spend over $27 million on electricity projects, $10 million on water, and nearly $2 million on gas in 1971. With 600 MW installed capacity at present (triple that of 1963), the PUB looks for 1000 MW capacity by 1974, at a cost of some $200 million over the next five years. An additional $17 million (including $8 million from the Asian Development Bank) will finance a new 3.3 billion-gallon reservoir with treatment plant and changes to trunk and primary distribution mains.

Also getting ADB assistance is a $34.7 million add-on to Singapore's international airport. Another ADB loan will aid the technical college's $4 million de-

velopment plans, including $1.5 million for equipment, a language lab, and audio visual aids. The nation's polytechnic school will spend nearly $13 million, including UN funds, over the next six years for a wide variety of improvements and equipment.

To cope with a 14 percent annual growth rate in demand for telephones (now numbering 120,000 or 7 phones for every 100 persons), the Telephone Board has revised its 1970-75 development plan to permit spending $9 million annually over the next six years; a World Bank loan of $11 million will cover 20 percent of the cost.

Jurong Town Corporation, landlords of Singapore's several industrial estates, will spend $24 million in 1971 on land development, the Jurong port, and construction of a town hall, park, and sports complexes, and expansion of an industrial water treatment plant. The Port of Singapore Authority (which expects to finish the current fiscal year with a net surplus of $12 million) will spend over $33 million in 1971.

Slated for statutory board status is the Telecommunications Department; with about 30 percent annual growth of traffic, its gross revenue has doubled since 1966, and is expected to reach $33 million by 1974. A $3 million satellite communication earth station, scheduled to open in August, will receive a second saucer antenna, and prospects are good for major changes to Telecom's other installations.

Another government-backed entity with growth plans is the Development Bank of Singapore, now erecting Asia's tallest building (51 stories) and planning a $7 million office and shopping center complex. The DBS also has been discussing investment prospects in Indonesia, where Singapore private firms already have some $30 million invested or committed, mostly in logging and manufacturing. (As a developing country that gives its citizens tax benefits for investing in neighboring developing countries, Singapore is probably unique among LDCs).

IMPORTS POUR INTO SINGAPORE—*Purchases from the United States jumped 65 percent last year, well above the overall rise. Above, a view of the Port of Singapore.*

Perhaps most dramatic is Singapore's search for an economically viable rapid transit system, with routes and equipment yet to be decided, aimed to avert an otherwise inevitable traffic saturation of the inner city. Prime candidate for the scheme is a fast, silent, pollution-free, light-weight train such as those now appearing in some U.S. cities.

Remarkable building boom

From makers of automatic hoists (replacing the traditional bamboo scaffolding) to suppliers of cement additives, building hardware, roofing, ceiling materials, and elevators, U.S. firms should be alert to Singapore's remarkable construction boom. In one of the few sectors where a real labor shortage exists, Singapore contractors will have to replace time-honored, labor-intensive methods and equipment with new machinery that can save them inflated wages and contractual penalties.

Catering equipment and furnishings makers should be aware that hotel construction in Singapore is of a scale perhaps unequalled in any city in the world. Deluxe and first-class hotels completed in 1970 or under construction represent an investment of $88 million. Singapore expects to have 14,000 hotel rooms and 809,000 visitors by 1973. Among numerous office-building projects, three London firms are to build (partly with U.S. financing) a 38-acre, $66 million complex.

On the industrial side, U.S. investment continues predominant, with some $200 to $240 million installed and another $150 million committed. Of a total $250-million investment over the next year pledged by all countries, according to the Economic Development Board, $180 million will come from the United States.

Although local officials see petroleum refining as the biggest single activity in the foreseeable future, increasingly sophisticated electronics production is supplanting the earlier "bead-stringing" stage of that industry, and metalworking, avionics, rig fabrication, and chemicals are broadening the

range of U.S. activities—and equipment needs—in Singapore.

More recently, firms from Britain (electronics and pharmaceutical), West Germany (cameras, diesel engines and typewriters), and Holland (electronics production equipment) have appeared on the Singapore scene.

French and Belgian banks have extended credit lines for machinery purchases, and foreign bank representative offices now number over a dozen.

Singapore now guarantees British investments, and a new Singapore investment center in Zurich should lure additional capital.

Growth to continue

All indications are for expansion and wider variation of Singapore's industrial sector, with a mounting demand for precision tools in particular. U.S. precision tools are virtually unrepresented in Singapore today. Also, as R&D becomes a Singapore activity, laboratory equipment will be required.

A rash of bank robberies has brought interest in security equipment, and Singapore's prosperity, now filtering down to smaller firms, brings with it a demand for table-top calculators and other uncomplex office equipment. Sales of home airconditioners are gathering steam as newly-constructed shops and office buildings nurture the "cool room" habit.

Storm warnings for U.S. exporters to Singapore are the recent government decision to metrify (communications in five years, the Central Supplies Office in four); the cost effect of the U.S. inflationary trend; and the failure of the shipping industry to provide significantly improved express service from U.S. ports concurrent with its ever-rising ocean freight rates. Dwarfing these problems, however, are the challenge of Japan's all-out trade offensive and Mainland China's destined role as a major competitor in the Southeast Asian market.

High Investment Level, Good Crop Keep Brazil Moving At Fast Pace

Brazil's GNP, powered by rising industrial and agricultural production and a substantial increase in foreign trade, grew at an estimated 7-8 percent rate in 1970. High levels of private investment in industry and another expected record agricultural crop portend a similar increase this year, reports the U.S. Embassy in Rio de Janeiro.

Paced by production increases of 17.6 percent in automobiles, 16.4 percent in cement and 9.0 percent in steel, 1970 industrial production posted a 10.7 percent increase over 1969. The Brazilian Government projects similar healthy industrial growth in 1971 and later years.

Large new investments totalling over $400 million are programmed by Volkswagen, General Motors, Ford and Chrysler in the next few years. These investments in turn should lead to additional growth in such auto-supplier industries as plastics, rubber, electrical and glass.

Active steel industry

The steel industry is priming itself to feed Brazilian industry's voracious appetite for steel. In September 1970, the Government announced an $800 million expansion program ($520 million for local goods and services, $280 million for imported machinery) for the three largest government-controlled steel mills, CSN, COSIPA and USIMINAS, to raise their capacity from 3.2 million to 6.9 million long tons by 1975-76. On the private sector side, there are a number of new or expanded steel mills being projected.

Foreign firms are also eyeing investments in the steel industry. Thyssen of West Germany has agreed to participate in a joint venture with Brazilian groups in two large new steel mills, and Mitsubishi of Japan and a U.S. firm are also considering investing in ACESITA, a government-controlled special steels plant.

Large new investments are also programmed for shipbuilding, mining and petrochemicals.

Despite the worst drought in the Northeast in a dozen years and one of the smallest coffee harvests on record, Brazil in 1970 recorded a 7 percent increase in agricultural crop production over 1969 due to good harvests in the Center-South. Government planners forecast a 9 to 10 percent increase in 1971 for all crops, including coffee.

Despite a downturn in the second semester, because of a two-month lull in coffee sales, Brazil's exports climbed 17.3 percent in 1970 to a record $2,711 million. Aided by fiscal incentives, manufactures led the advance with a 58.1 percent rise to $455 million. High world coffee prices, caused primarily by the substantially reduced Brazilian crop, yielded Brazil $912 million, with earnings up 12.2 percent despite a 13.8 percent decline in the volume of coffee exports. Iron ore exports totalled $210 million, up 42.2 percent. Exports of corn, soya and frozen beef also registered impressive increases.

Imports grew to an estimated $2,550 million in 1970. Capital goods imported for manufacturing and service industries rose slightly faster than imports in general. As in the past, basic supplies for agriculture, industry and power made up about half of total imports. The import growth reflects rising investments in new plants and equipment, modernization of older plants, and the generally high level of economic activity.

The high import growth rate indicates the dynamism in the Bra-

zilian economy and the reasons for the government's emphasis on a high rate of export growth as a means of avoiding import bottlenecks to its development objectives.

According to government officials, import liberalization in 1971 is under serious study. When it announced its new industrial policy in December 1970, the Government said that although it would continue to protect local producers against dumping, its import policy will be aimed at promoting industrial efficiency and at the elimination of excessive protection which keeps prices high to the consumer.

The pace of inflation in Brazil slowed a little in 1970. The general price index advanced 19.3 percent, compared with 20.2 percent in 1969. It was the first time in more than a decade that the increase was held to less than 20 percent.

An important factor influencing prices was the increase in the money supply. In 1970 this was limited to 25 percent as compared with nearly 33 percent in 1969. Good crops also contributed to reducing the pace of inflation.

For 1971, the target for expansion of the money supply has been set at 22 percent. If this goal is met, and the economy continues its vigorous expansion, further gains could be made in reducing the pace of inflation in 1971.

This year's goals

In a January report to the President, the Ministers of Finance and Planning set forth the following major economic goals for 1971: sustained growth of GDP at 8-10 percent with expanding employment and improvement in the distribution of national income; rises in agricultural crop production of 9 to 11 percent and in industrial production of at least 10 percent; continued progress in reducing the rate of inflation, with a target of not more than 10 percent annually by the end of term of office of the Medici Government in 1974; continued reduction in interest rates; exports of $3 billion, including manufactures of $600 million; international reserve increase of $50-100 million; and continued efforts to strengthen the private sector, both in industry and agriculture.

In October 1970, President Medici announced a development program for the years 1970-73. The program calls for balanced growth between government and the private sector, including foreign private enterprise. It gives priority to: education and health; agriculture and agricultural marketing; development of science and technology; and strengthening of nationally-owned private industry.

The program also sets forth ambitious targets the Government wishes to reach by 1973, when the population should be around 100 million: a 41 percent increase in GNP over 1969, 50 percent in industrial output, 46 percent in export values, 58 percent in total investment, and 13 percent in employment.

Good sales prospects

The rapidly expanding Brazilian economy, aided by a significant inflow of international financing, offers good opportunities for U.S. exporters and investors. On the export side, backed by highly competitive Eximbank financing, U.S. exporters have excellent opportunities to supply Brazil with construction and earthmoving equipment, steel mill equipment, railroad equipment, chemicals and fertilizers, and electrical power plant facilities. In addition, in January the Government opened bids for a 500 MW nuclear power plant; two U.S. firms, both with Eximbank financing, are in good position to win this contract of more than $100 million.

Loans planned by the IBRD, IDB and AID will bolster import demand. AID loans for 1971 include: education, $10 million; agriculture, $40 million; and capital markets, $15 million.

BLENDER FOR BRAZIL — *This U.S.-built mixing drum is part of a $57 million expansion at a steel plant near Rio.*

Liberalization of Brazil's import system, if it materializes, should provide further opportunities for increased exports. A U.S. Department of Commerce-sponsored Industrial Machinery Exhibit to be held in Sao Paulo in November should provide a fine sales vehicle for exporters of business office equipment, advanced machine tools, graphic arts and printing equipment, and heavy construction and earthmoving equipment.

Meanwhile, the Government's desire for a sustained high growth rate, and its awareness of the urgency in developing the country's underdeveloped areas, continue to make it receptive to foreign investment. Government incentives given to approved investment projects and further development of the capital market offer inducements for various types of investment in Brazil. Some of the more attractive areas for investment include mining, food processing, steel, machine tools and fishing. In certain areas, particularly the extractive industries, the Government appears to favor joint ventures, although there is not yet a hard-and-fast policy.

World Trade Actions

Nigeria Alters Import Procedures, Clarifies Foreign Exchange Rules

Nigeria: A number of measures enacted on April 1 significantly alter trading procedures and the regulations affecting foreign exchange for exports to Nigeria. Included were changes in the rates of import duty on selected items.

Increases in duty were imposed on imports of coffee, wheat flour, tomato puree and paste, parts of gramophones, various yarns and unbleached fabrics, domestic sewing machines, batteries, and electric cable.

Duty reductions or extensions of concessionary duty rates were announced on wire rod, angle, shapes and sections of iron and steel, iron and steel wire, unwrought aluminum, zinc ingot, ground rollers, and fishing vessels. Parts, components and accessories for local ship construction and all industrial machinery and parts thereof are now dutiable at 5 percent ad valorem, a reduction from previous 15 and 20 percent rates.

Also published were three lists of prohibited goods; one list is prohibited for reasons of "public health, morality, religion, etc." and includes such items as handguns, including air pistols, betting coupons, secondhand clothing, and some alcoholic beverages.

Prohibited imports

For purposes of preserving foreign exchange, a second list of imports composed primarily of foodstuffs is prohibited.

A third list comprises miscellaneous commodities prohibited unless imported for officially approved purposes or by a specific Authority or Institution.

With the exception of 13 commodities, primarily foodstuffs, which still require a specific import license for importation, all goods, other than prohibited goods, may now be freely imported into Nigeria under Open General License.

Exchange control regulations have been reorganized so that exporters will now know how long they must wait for payment. Exchange will be made available after 90 days for imports of day-old chicks, milk, salt, cement, sugar, baby foods, drugs and pharmaceuticals, agricultural fertilizers and chemicals, and industrial raw materials. Capital equipment, machinery and plant valued at less than $70,000 may also be imported under 90-day-credit terms. All other commercial imports (excluding capital goods of more than $70,000 in value) are payable only under 180-day-credit terms. Payment for shipments of capital goods valued at more than $70,000 will be made according to a schedule whereby 20 percent of the value will be paid on or before delivery with the remaining 80 percent payable after a minimum delay of one year. Foreign exchange for very large capital goods orders will be made available in regular allocations over a period of several years.

Further information relating to the recent changes, as well as copies of the Nigerian Customs and Excise Acts implementing these measures, are available from the Africa Division, BIC-884, U.S. Department of Commerce, Washington, D.C. 20230, telephone (202) 967-2436.

The German Government, effective May 10, decided to permit the German Mark to float—within a limited range—in relation to the U.S. dollar. At the same time, the Netherlands acted to allow the Guilder to float in terms of the dollar, and Switzerland and Austria increased the value of their currency units in terms of the U.S. dollar to 24.46 cents and 4.04 cents, respectively. A report from Bonn on current German economic conditions, "Germany Decelerating Its Prolonged Economic Boom," was published in the March 22 issue of Commerce Today.

Germany: U.S. industry is maintaining its position as the Federal Republic's principal foreign licensor and major recipient of German license royalties. For the use of patents and licenses, German business firms remitted to the United States nearly $134 million in 1969, almost half the total amount spent for this purpose. By contrast, German receipts from patents and license rights sold to the United States in that year totaled $18 million. These amounts, which result from the conversion of German marks at the rate of 3.66 per dollar, do not take into account reciprocal exchange.

U.S. receipts from the Federal Republic for patents and licenses are particularly high in the following fields: electrical engineering, chemicals, metal-producing and metal-working industries (which together accounted for more than half of these receipts); food, beverage, and tobacco industries; and precision instruments and optical goods.

The German Association of Chambers of Industry and Commerce expects a further rise in the number of licenses granted by U.S. firms, keeping the U.S. on top as foreign licensor to Germany.

Information of possible interest to potential U.S. licensors is provided in a bulletin entitled "Patent Licensing Agreements with Firms in the Federal Republic of Germany and West Berlin," available from the European Division, BIC-888, U.S. Department of Commerce, Washington, D.C. 20230.

Worldwide Business Services

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors overseas. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine. The section that follows, incorporating the familiar Licensing and Investment Opportunities and Foreign Trade Opportunities, presents details about licensing and joint venture proposals, opportunities to sell to foreign firms and government agencies, appoint agents, major construction and expansion projects, and U.S. visits by foreign buyers.

Licensing, Investment Abroad

0913—INDIA—Subsidiary of a conglomerate seeks licensing or joint venture arrangements to establish **shrimp fishing and shrimp-processing facilities** on the east coast of India. Marine products industry in India has priority status under Indian Government development plans. Seeks U.S. firm with capability and expertise for providing technical know-how and/or equity participation in the form of trawlers, on-shore fish processing equipment and marketing operations. Office of International Investment, BIC-878, Dept. of Commerce, Washington, D.C. 20230. WTD. P-71210

2090—SWITZERLAND—Large producer of a famous line of food products seeks licenses for **powdered, dehydrated or liquid types of food products** in order to expand its present product line. The firm is interested in food products in the following fields: low-calories, dietetic (except for diabetics), sweets, prepared or ready-mix, snacks, special fast food items (except chips, nuts and similar items), and drinks containing protein, isotonic beverages. Office of International Investment, BIC-878, Dept. of Commerce, Washington, D.C. 20230. WTD. P-71209

2381 — GERMANY — Producer of work gloves and men's work clothing seeks license to manufacture **work gloves.** Walter Georgi & Co. 5277 Marienheide-Rodt/Rheinland. WTD. P-71208

2410—PAPUA AND NEW GUINEA—U.S. firms invited to **develop approximately 215,000 acres of timber** located in two areas of the Territory. One project, identified as the Giluwe forestry proposal consists of about 93,900 acres located in the Southern Highland district. The other project, known as the Kumusi forestry proposal, is about 121,000 acres in the Northern district of Papua. Prospective investors will be provided with field facilities, a guide to assist in inspection of the areas and all available assessment data and maps. Interested companies should register intentions to submit proposals by June 30. Write the Director, Dept. of Forests, Konedobu, Territory of Papua and New Guinea. P-71196

2512, 2521, 2541—ARGENTINA—Interior decorating firm seeks license to manufacture **office and home wall partitions, modular furniture, special furniture for banks and light and heavy duty shelving.** S. F. Costanzo y Asociados, Tucuman 1506, Buenos Aires. P-71200

2818 — BELGIUM — Leading firm seeks licenses to make chemicals, other products. Interests include **petrochemical by-products, chemicals used in water pollution treatment, organic chemicals and building materials.** The firm's president plans U.S. visit in June. Write: Victor Bernard, Deputy Consul General, Industrial Section, Belgian Consulate General, 50 Rockefeller Plaza, New York, N.Y. 10020. P-71192

2821, 3557—GERMANY—Manufacturer and distributor of **polytetrafluor ethylene (PTFE) and fluorinated ethylene propylene (FEP) products** seeks licenses to improve present product line. Descriptive literature of firm's product line available from the Office of International Investment, BIC-878, Dept. of Commerce, Washington, D.C. 20230. Pampus KG, 1 Am Nordkanal, 4156 Willich 3, Germany. WTD. P-71201

2834 — AUSTRIA — License to manufacture **infusion solutions** not currently made in Austria. Prepared to license U.S. company to produce its line of solutions. Dr. Wilhelm Flush, Leopold & Company, Koeroesistrasse 48, A-8020 Graz. WTD P-71193

2840—AUSTRIA—Maker of wet facial tissues and similar personal product packages seeks licenses to make **instant shoe shine, silver cleaners, nail polish removers and perfume samplers.** Also seeks American firm to handle its products in the U.S. Wolfgang Bleckmann, Mgr., Bellapack Unternehmen fuer automatische Abpackungen GmbH & Co. K.G., Alpenstrasse 67, A-5020 Salzburg. WTD. P-71197

3079—SCOTLAND—Licenses to manufacture **plain or decorated plastic containers, containers made from a combination of plastic and other materials such as cardboard and metal.** R. W. Gray, Marketing Dir., Wilkie & Paul Ltd., Grove Works, Slateford Rd., Edinburgh. EH14 1RF. WTD. P-71191

3357—FRANCE—Firm seeks license to develop **plastic coated electric wires and cables department.** J. Rouze, Gen. Mgr., ACOME (Association Cooperative d'Ouvriers en Materiel Electrique), 14 rue de Marignan, Paris 8. WTD. P-71199

3410—YUGOSLAVIA—Major boiler and food processing equipment producer proposes joint venture arrangement with U.S. firm to establish plant for fabrication of **stainless steel vessels and other stainless steel items used in food processing, petrochemical and pharmaceutical industries.** Zagreb based firm capable of design, manufacturing and installing complete food processing plants; makes steam boilers and refrigeration equipment. Sales force services market area covering Eastern Europe, U.S.S.R., Greece, Italy, Austria, West Germany, Spain and several north African countries, as well as Yugoslavia. Aleksander Varga, "JEDINSTVO", Samo-

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and also assistance on overseas investments are available from the Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to specific proposals.

For additional information on opportunities to manufacture foreign firm's products in the U.S., described under "Licensing In U.S.", write Commerce's Office of International Investment, BIC-874, or call 202-967-2248, referring to the File Number assigned each opportunity.

WTD indicates that a World Trade Directory Report containing financial and background information on the foreign firm is available for $2 from the Department of Commerce, BIC-924, Washington, D.C. 20230, or from any Commerce Field Office.

borska Cesta 145, P.O. Box 103, Zagreb. WTD. P-71195

3494—ENGLAND—Manufacturing rights for **thermostatic and industrial valves and agricultural implements.** Firm's present product line includes valves, steam traps, mechanical handling equipment, tractor mounted hydraulic loading and digging equipment and steel forgings. Has approximately 1,500 employees. P. W. McKenzie, Deputy Chairman, Midland Industries Ltd., Heath Town Works, Wolverhampton, Staffordshire. WTD. P-71202

3536, 3561—ENGLAND—Firm seeks licenses to produce **air hoists, pumps for construction industry or products utilizing permanent mold castings.** The company is particularly interested in products which could be marketed in the U.K. and Europe. Firm manufactures permanent and pressure die castings of aluminum and zinc. Established in 1946, it employs 150. R.S.N. Barker, Man. Dir., Bardic Engineering Ltd., Bond St., Southampton, Hampshire. WTD. P-71205

3537, 3559 — ENGLAND — Manufacturer seeks license to produce **mechanical handling equipment for processing and chemical industries.** Products desired are those with high degree of sophistication. M. H. Rodway, Marketing Executive, Fairey Engineering Ltd., P.O. Box 41, Crossley Rd., Heaton Chapel, Stockport, Cheshire, SK4 5BD. WTD. P-71203

3567—ENGLAND—License to produce **medium and high frequency generators, equipment for induction heating applications.** Firm produces gas and water fittings, induction and infra-red heating equipment. Employs about 130. J. P. Glithero, Man. Dir., E. Peart & Co. Ltd., Onward Works, Manchester Rd., Hyde, Cheshire, SK14 1BB. WTD. P-71207

3611 — SWITZERLAND — Manufacturing rights for **electrical instruments for measuring pressure, acceleration, tension.** Firm produces sophisticated electrical measuring instruments. Has subsidiaries and representatives in 17 countries including U.S. Mr. Vollenweider, Sales Mgr., Kistler Instruments AG, Eulachstr. 2, P.O. Box 61, 8048 Winterthur. WTD. P-71194

3634 — FRANCE — Producer of electric storage-type radiators seeks license to manufacture **electric heating equipment** that transmit heat through the process of heating fluids in storage tanks or by a fan system to blow over heating unit. Established in 1956, employs 50. J. Attia, Mgr., CID-Accumulation, 97 Ave. Pasteur, 93–Les Lilas. WTD. P-71204

3714—ENGLAND—Firm seeks license to produce **axles and gearboxes.** Company makes steering axles, drive axles and gearboxes for fork lift trucks, tractors and dumpers. Employs 85. A. E. Marsh, Man. Dir., D.C.M. (Holdings) Ltd., 24 College St., Petersfield, Hampshire. WTD. P-71206

3822 — THE NETHERLANDS — Firm seeks licenses to manufacture **thermostatic valves** for use on such products as home appliances, gas boilers, electric boilers and showers. The licensor should be able to supply designs for low-cost series production. Company has production capabilities for brass forging, metal machining and plastic molding. Employs 500 and reports that sales territory covers Common Market. G. R. van Dis, Gen Mgr., Simmonds Precision N.V., 139 Zutphensestraat, Brummen. WTD. P-71198

Foreign Trade Opportunities

These trade opportunities are based on reports received from the U.S. Foreign Service by the Business Opportunities Staff and other units of the Bureau of Domestic Commerce (BDC), U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1967 Census of Manufacturers, used extensively by Government and industry.

U.S. firms should also be aware that the listing in Commerce Today *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only firms or individuals with good reputations. However, the Department cannot be responsible for any trade relations.

The mark (•) indicates that this trade opportunity is a request for bids by a foreign government agency. A (★) at the end means that additional information may be borrowed by U.S. firms from the individual division of BDC. To avoid delays, requests for loan material should specify the country, commodity and foreign government agency.

WTD indicates that a World Trade Directory Report containing financial and business background information on the foreign firm is available for $2 from the U.S. Department of Commerce, BIC-924, Washington, D.C. 20230, or any Commerce Field Office.

Direct Sales

Specific foreign firms have expressed interest in direct purchases of the products below. See also the "Agencies" listing.

Small arms

19512 — GERMANY — Sport, hunting weapons, hunting equipment. Waffen Jung (importer, retailer), 7 Stuttgart 1, Sophienstrasse 26. WTD 3/71.

Small arms ammunition

19610 — GERMANY — Ammunition for sport, hunting weapons. Waffen Jung (importer, retailer), 7 Stuttgart 1, Sophienstrasse 26. WTD 3/71.

Canning, preserving foods

20310 — ITALY — Canned seafood. Castroni Marcello (retailer), Via Cola di Rienzo 196, 00192 Rome. WTD 3/71.

20324—ITALY—Canned specialties, canned nationality foods. Castroni Marcello (retailer), Via Cola di Rienzo 196, 00192 Rome. WTD 3/71.

20331 — ITALY — Canned fruits, vegetables. Castroni Marcello (retailer), Via Cola di Rienzo 196, 00192 Rome. WTD 3/71.

20334—ITALY—Canned fruit, vegetable juices. Castroni Marcello (retailer), Via Cola di Rienzo 196, 00192 Rome. WTD 3/71.

20336—ITALY — Catsup. Castroni Marcello (retailer), Via Cola di Rienzo 196, 00192 Roma. WTD 3/71.

20338—ITALY—Jams, jellies, preserves. Castroni Marcello (retailer), Via Cola di Rienzo 196, 00192 Rome. WTD 3/71.

20361—BAHRAIN—Fresh, frozen packaged fish. Direct purchase & agency. Moon Stores (importer, dist., retailer), P.O. Box 247, Bahrain, Arabian Gulf. WTD 8/70.

20371—BAHRAIN—Frozen fruits, juices. Direct purchase & agency. Moon Stores (importer, dist., retailer), P.O. Box 247, Bahrain, Arabian Gulf. WTD 8/70.

20372—BAHRAIN — Frozen vegetables. Direct purchase & agency. Moon Stores (importer, dist., retailer), P.O. Box 247, Bahrain, Arabian Gulf. WTD 8/70.

20373—BAHRAIN — Frozen meats, prepared foods, soups. Direct purchase & agency. Moon Stores (importer, dist., retailer), P.O. Box 247, Bahrain, Arabian Gulf. WTD 8/70.

Grain mill products

20430 — ITALY — Cereal preparations. Castroni Marcello (retailer), Via Cola di Rienzo 196, 00192 Rome. WTD 3/71.

20455 — ITALY — Flour mixes. Castroni Marcello (retailer), Via Cola di Rienzo 196, 00192 Rome. WTD 3/71.

Bakery products

20520 — CANADA — Crackers, biscuits,

cookies, sandwich cookies, marshmallow cookies (except pretzels, ice cream cones). Jack L. Tully, Gen. Mgr., B. L. Marks Sales Co. Ltd. (importer, dist., broker), 70 Doncaster Ave., Willowdale, Ontario. WTD in prep.

Confectionery

20711—CANADA—Bar goods, except solid chocolate bars. Jack L. Tully, Gen. Mgr., B. L. Marks Sales Co. Ltd. (importer, dist., brokers), 70 Doncaster Ave., Willowdale, Ontario. WTD in prep.

20712—CANADA — Confectionery products—5, 10 cent specialties. Jack L. Tully, Gen. Mgr., B. L. Marks Sales Co. Ltd., (importer, dist., broker), 70 Doncaster Ave., Willowdale, Ontario. WTD in prep.

20713—CANADA — Candies, chocolates, confections (fudge, licorice etc.) in consumer packages (bags, boxes, jars, or tins); boxed chocolates, fancy gift wrapped consumer packages. Jack L. Tully, Gen. Mgr., B. L. Marks Sales Co. Ltd. (importer, dist, broker), 70 Doncaster Ave., Willowdale, Ontario. WTD in prep.

20716 — CANADA — Salted nuts, other confectionery-type products: (except cough drops; glace, candied fruits) vacuum packed tins preferred; popcorn balls, other treated popcorn products packages. Jack L. Tully, Gen. Mgr., B. L. Marks Sales Co. Ltd. (importer, dist., broker), 70 Doncaster Ave., Willowdale, Ontario. WTD in prep.

20722—CANADA—Chocolate bars, candy. Jack L. Tully, Gen. Mgr., B. L. Marks Sales Co. Ltd. (importer, dist., broker), 70 Doncaster Ave., Willowdale, Ontario. WTD in prep.

Broad woven fabric mills, cotton

22111 — GERMANY — New, pure cotton cuttings, white, colored. Correspondence requested in German. Schwarzwaelder Textil-Werke Heinrich Kautzmann GmbH (importer, mfr.), D-7623 Schenkenzell, Baden-Wuerttemberg. WTD 4/71.

22119—GERMANY—Terry cloth towels. Direct purchase & agency on exclusive sales rights for Germany. Frottier-Hammer GmbH (importer, dist.), 75 Roedelheimer Landstr., 6000 Frankfurt/Main 90. WTD 4/71.

Men's, youths', boys' suits, coats

23111—LIBYA—Men's suits. Barie Co. for Commercial Agencies (importer, dist.), P.O. Box Gargarish 6552, Tripoli. WTD in prep.

Women's misses', juniors' outerwear

23351—LIBYA—Women's, misses', juniors' dresses. Barie Co. for Commercial Agencies (importer, dist.), P.O. Box Gargarish 6552, Tripoli. WTD in prep.

Millwork, veneer, plywood

24331 — GERMANY — Timber, sawed. Adolf Schuett & Cie. GmbH (importer, dist.), 16 Hindenburgstrasse, 4902 Bad Salzuflen. WTD in prep.

Household furniture

25110—FRANCE — Wood household furniture. American style; rocking chairs, chests of drawers, dressers, tables. Catalogs, price lists requested. Cadiou S.A. (importer, dist., mfr.), Parc Industriel, 33 Pessac. WTD 4/71.

Paper mills, products

● **26200—UAR (Egypt)**—Supply 100,000 rolls of parchment glycerinated paper tape for the operation of code perforators for telegraph machines. Width, $11\frac{1}{16}$", thickness, .0045", length of individual rolls, about 1,000 ft. Copy of tender available from Forest Products, Packaging, Printing & Publishing Div., BDC, Rm. 5099B, Dept. of Commerce, Washington, D.C. 20230 ★(202-967-2738). Bid deadline June 5.

General commercial printing

27526 — SPAIN — Lithographic prints (preferably of American scenes); also reproductions of art, in any material. El Retablo, S.A. (importer, dist.), Nunez de Balboa, 15, Madrid (1). WTD 4/71.

Industrial chemicals

28122—NICARAGUA — Sodium bicarbonate for tanning. Annual need: 5,000 kilos. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4/71.

28163 — NICARAGUA — Chrome colors, other inorganic pigments for tanning. Annual requirement 25,000 kilos. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4/71.

28180—AUSTRIA—Organic acids, industrial alcohols, phthalates, manganese acetate, high purity grade chemicals, oxalates, plasticizers, silicones, related industrial organic chemicals. Richard Haeusler, Aussenhandel (importer, dist.), Eggenberger Allee 1-3, P.O. Box 69, A-8011 Graz. WTD 2/71.

28181—NICARAGUA—Tanning materials, synthetic, organic. Annual requirement 40,000 kilos. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4/71.

28182—NICARAGUA—Tanning chemical products such as oxalic, formic acid. Annual requirement 2,000 kilos. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4/71.

28183—ARGENTINA — Rubber processing chemicals. Correspondence requested in Spanish. Gomarec S.R.L. (mfr.), Av. San Martin 4868, Lomas Del Mirador (Buenos Aires). WTD in prep.

28183 — AUSTRIA — Auxiliary organic chemicals for plastics processing industry; imports in bulk. Distributorship for Austria, East-European markets. COMMENDA Warenhandelsgesellschaft mbH (importer, dist., exporter), Parkring 12, P.O. Box 118, A-1015 Vienna. WTD 4/71.

28183—GERMANY—All kinds of chemicals, compounds used in rubber processing industry. Direct purchase & agency. Hans W. Barbe, Chemische Erzeugnisse (importer, dist.), 6200 Wiesbaden-Schierstein, Postf. 17223. WTD 4/71.

28193—NICARAGUA—Sulfuric acid for tanning. Annual requirement 2,000 kilos. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4/71.

28197—NICARAGUA—Tanning chemical products such as sodium sulphur. Annual requirement 10-30,000 kilos. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4-71.

28199—NICARAGUA—Formiate of calcium for tanning. Annual need: 2,000 kilos. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4/71.

Synthetic materials

28212—PAKISTAN — Cellophane paper, size 20" x 30", 3 tons. Quotes, c. & f., Karachi. Fine Paper Mart (importer), Frere Rr., Karachi-1. WTD in prep.

28214—GERMANY—Thermosetting resins, all types, in form of granules or powder, virgin material. Direct purchase and agency. Overbeck & Co. (importer, agent), 33 Breitenweg, P.O. Box 896, 28 Bremen 1. WTD 8/70.

Agricultural chemicals

28722 — ARGENTINA — Agricultural mixed fertilizers. Correspondence requested in Spanish. Ruben M. Coffolo (dist., mfr.), Guemes 748, Ciudad Perico, Jujuy. WTD in prep.

28790—ARGENTINA—Agricultural pesticide, herbicidal preparations. Correspondence requested in Spanish. Ruben M. Coffolo (dist., mfr.), Guemes 748, Ciudad Perico, Jujuy. WTD in prep.

Chemical products

28993—GERMANY—Mold parting compounds. Direct purchase & agency. Hans W. Barbe, Chemische Erzeugnisse (importer, dist.), 6200 Wiesbaden-Schierstein, Postf. 17223. WTD 4/71.

Petroleum refining

29110—GERMANY—Fuel oil for heating and petroleum coke. Direct purchase & agency. Gebr. Kiessel GmbH, Attn: Herr Buchmann (importer, dist.), 10 Muehldorferstr., 6800 Mannheim. WTD 4/71.

29110—HONG KONG—Paraffin wax. R & R Corp. H.K. (importer, agent), Sincere Insurance Bldg., 6/F, Hennessy Rd., P.O. Box K-2277. Cable: RANDRHK. WTD in prep.

Handbags, personal leather goods

31720—JAPAN—Leather billfolds, wallets, purses. Biyo Trading Co., Ltd. (importer, dist., exporter), 24, 2-chome Tokugawa-cho, Higashi-ku, Nagoya. WTD 3/71.

Structural clay products

32530 — VENEZUELA — Ceramic tiles; wall, floor. Restrepo C.A. (importer, dist.), Avenida Sucre y calle Cutira, Catia, and Apartado 6753, Caracas 103. WTD 4/71.

Steel mill products

● **33100—INDIA**—3,007 metric tons bulb plates, 1,406 metric tons M.S. flats, 52 metric tons M.S. unequal angles, all to Lloyd's grade-A. Bids due June 1; Tender No. COP/Q/PT=219, grade-A bulb plates etc. Copies of tender schedules available from the Office of the Controller of Purchase, Hindustan Shipyard Limited, Visakhapatnam 5, Andhra Pradesh. Tender fee Rs 50 (U.S. $1.=7.5 rupees).

● **33100 — INDIA** — 323 metric tons Lloyd's shipbuilding quality grade-D plates. Bids due June 1; Tender No. COP/Q/PT=218, grade-D plates. Copies of tender schedule available from the Office of the Controller of Purchase, Hindustan Shipyard Limited, Visakhapatnam 5, Andhra Pradesh. Tender fee Rs 10 (U.S. $1.=7.5 rupees).

● **33100 — INDIA** — 18,697 metric tons Lloyd's shipbuilding quality grade-A plates. Bid deadline June 1; Tender No. COP/Q/PT-217, grade-A plates. Copies of tender schedules available from the Office of the Controller of Purchase, Hindustan Shipyard Limited, Visakhapatnam

5, Andhra Pradesh. Tender fee Rs 50 (U.S. $1.=7.5 hupees).

● **33100—PAKISTAN** — 2,500 long tons 75 lb. R.B.S. section rail, 400 long tons mild steel, class 11 flats to DIN specification MRST-37, 9"x1". Bid deadline June 7. West Pakistan-Railway Board, Lahore. Tender No. PR-1/70/TR/5. Tender documents available from Iron & Steel Industry Operations, BDC, Dept. of Commerce, Washington, D.C. 20230 ★(202-967-2613).

33121—GERMANY—Metallurgical coke, coke oven products. Direct purchase & agency. Gebr. Kiessel GmbH, Attn: Herr Buchmann (importer, dist.), 10 Muehldorferstr., 6800 Mannheim. WTD 4/71.

33121 — JAPAN — Ferronickel magnetic alloy (permalloy) sheet to be used for safety devices of gas water heaters. Paloma Co., Ltd. (dist., mfr.), 24 Momozonocho, Mizuho-ku, Nagoya. WTD in prep.

33121 — NICARAGUA — Ammonia for tanning. Annual requirement 2,000 kilos. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4/71.

33167 — HONG KONG — Vinyl coated steel sheets. Sandoz Div., The China Engineers Ltd. (importer, dist., agent), 345 Alexandra House, Chater Rd., P.O. Box 148. Cable: CHIENSANDO. WTD 9/70.

Rolling, drawing, extruding of nonferrous metals

● **33500—CEYLON**—Supply of 40 tons hard drawn bare copper wire containing 1% cadmium, conforming B S S 175: Contact Chief Telecommunication Engineer, Fifth Fl. P & T Headquarters Bldg., Box 503, Colombo 1. (Cable: Magneto Colombo).

● **33500—THAILAND**—Supply of 25 KV copper cable, cross-linked polyethylene insulated. Tender No. MEA-PSD-236; bid deadline June 7. Contact Purchases & Stores Dept., Metropolitan Electricity Authority, 121 Chakraphet Rd., Bangkok 2.

● **33500—TRINIDAD**—Tender No. 2189, 600/1000 volt PVC insulated single core copper conductor. Tender No. 2190, 600/1000 PVC insulated single core copper conductor. Tender No. 2191, 600/1000 volt PVC insulated single core copper conductor. Bid deadline May 28. Purchasing Office, Trinidad & Tobago Electricity Commission, 63 Frederick St., Port of Spain.

33528—KENYA—Fifty mm. square mild steel billets in lengths of 20 to 30 ft. with following specifications: C—Max, .25%; S—Max, .055%; Mn, .090% and P, .055%. Quantity required about 12,000 metric tons in partial shipments for steel rolling mill in Mauritius. Direct purchase & agency. Desbro (Kenya) Ltd. (importer, dist., agent), P.O. Box 2469, Nairobi. WTD 5/70.

Heating, plumbing apparatus

34320 — GERMANY — Plumbing fixture fittings, trim (brass goods) all kinds. He-Wa, D.+E. Blaum (importer, dist., agent), 5256 Hommerich-Welzen Nr. 6, P.O. Box. WTD 2/71.

34320—VENEZUELA—Faucets for bathtubs. Restrepo C.A. (importer, dist.), Avenida Sucre y calle Cutira, Catia, and Apartado 6753, Caracas 103. WTD 4/71.

34330—GERMANY—Heating equipment, all kinds. He-Wa, D.+E. Blaum (importer, dist., agent), 5256 Hommerich-Welzen Nr. 6, P.O. Box. WTD 2/71.

34331—GERMANY—Residential oil burners. Direct purchase & agency. Gebr. Kiessel GmbH, Attn: Herr Buchmann (importer, dist.), 10 Muehldorferstr., 6800 Mannheim. WTD 4/71.

Fabricated structural metal products

34411 — BOLIVIA — Aluminum, fabricated structural, for buildings (profiles). Empresa Constructora Inchausti, Zarate y Cia. Ltda. (imp., constructor), Av. Mariscal Santa Cruz 1336, P.O. Box 4712, Edificio Electra 3er Piso, La Paz. WTD 4/71.

Fabricated metal products

34942—POLAND—Valves including control, pressure, pressure-reducing, remote control, safety, kingston valves for marine use. Centromor, Attn: Zygmunt Boniewicz, Vice-Dir. (importer), ul. Okopowa 7, Gdansk.

Farm machinery

● **35200 — COLOMBIA** — Thirty wheel tractors; 7 pulverizer rollers; one ring roller; 15 grain storers; 7 vegetable seeders; 17 precision seeders; 23 four-row cultivators; 9 subsoilers; 2 scarifiers; 4 line markers; 4 harvesters; 7 balers; 4 ensilage cutters; 3 rakes; 31 plows; 5 fertilizer distributors; 5 hoes; 3 dusters; 5 sprayers; 4 weed cutters; 4 graders; 6 California type rakes; 8 polisher rakes; 6 grain combines; 4 ashlars for gathering corn; 2 grain dryers; 1 disc plow; 10 rotovators; 8 peanut pullers. Tender No. 15-71; bid deadline June 7. Detailed specifications for 500 Colombian pesos from Institute Colombiano de la Reforma Agragia, Centro Administrativo Nacional, CAN, Oficina 503, Bogota.

35225—SPAIN — Harvesting machinery. Rodriguez-Sabio Sanchez, C.B. (importer, dist.), Virrey Ossorio, 17-19, La Coruna. WTD 4/71.

35226—SPAIN—Haying machinery. Rodriguez-Sabio Sanchez, C.B. (importer, dist.), Virrey Ossorio, 17-19, La Coruna. WTD 4/71.

35227—ITALY—Power lawnowners. Dott. A. Ingegnoli, S.p.A. (importer, retailer), Via Merulana 48, 00186 Rome. WTD 3/71.

Construction, mining, materials handling machinery, equipment

35310 — AUSTRIA — Small machinery, equipment for construction industry. INDAGRO Handelsgesellschaft (importer, agent, exporter), Kaerntnerring 17, A-1010 Vienna. WTD 4/71.

35311 — PORTUGAL — Contractors' off-highway wheel tractors, except parts, attachments. Direct purchase & agency. Sociedade de Representacoes Coutinhos, Lda. (importer, dist., agent), Rua de Sa da Bandeira, 596, Apartado No. 302, Oporto. WTD 3/71.

35312—PORTUGAL — Tracklaying tractors. Dir. pur. & agency. Sociedade de Representacoes Coutinhous, Lda. (imp., dist., agent), Rua de Sa da Bandeira, 596, Apartado No. 302. Oporto. WTD 3/71.

35313—PORTUGAL—Parts, attachments for tracklaying, off-highway tractors. Direct purchase & agency. Sociedade de Representacoes Coutinhos, Lda. (importer, dist., agent), Rua de Sa da Bandeira, 596, Apartado No. 302, Oporto. WTD 3/71.

35314 — PORTUGAL — Power cranes, draglines, shovels, parts. Direct purchase & agency. Sociedade de Representacoes Coutinhos, Lda. (importer, dist., agent), Rua de Sa da Bandeira, 596, Apartado No. 302, Oporto. WTD 3/71.

35316 — PORTUGAL — Mixers, pavers, related equipment. Direct purchase & agency. Sociedade de Representacoes Coutinhos, Lda. (importer, dist., agent), Rua de Sa da Bandeira, 596, Apartado No. 302, Oporto. WTD 3/71.

35317 — PORTUGAL — Tractor-shovel loaders. Direct purchase & agency. Sociedade de Representacoes Coutinhos, Lda. (importer, dist., agent), Rua de Sa da Bandeira, 596, Apartado No. 302, Oporto. WTD 3/71.

35318—PORTUGAL — Scrapers, graders, rollers, off-highway trucks, trailers, wagons. Direct purchase & agency. Sociedade de Representacoes Coutinhos, Lda. (importer, dist., agent), Rua de Sa da Bandeira, 596, Apartado No. 302, Oporto. WTD 3/71.

35319 — PORTUGAL — Construction machinery, equipment, parts. Dir. purchase & agency. Sociedade de Representacoes Coutinhos, Lda. (imp., dist., agent), Rua de Sa da Bandeira, 596, Apartado No. 302, Oporto. WTD 3/71.

Metalworking machinery

● **35400—INDIA**—Two heavy duty bolt forging machines—16 mm. to 38 mm. capacity, 260 mm. head stroke, 15 hp. motor. Global procurement. Tender No. 404/14/062/7.1.71; bid deadline May 28. Directorate General, Supplies & Disposals, Parliament St., New Delhi. Tender copies (Ref. No. CDN/ENQ/265) available from India Supply Mission, 2536 Massachusetts Ave., NW., Washington, D.C. for $2.50 per copy.

35421—MEXICO—Machinery for manufacture of chain link fence. Productos Metalinos, S.A. (mfr.), Matamoros Pte. 403, Monterrey, N.L. WTD in prep.

35485—SINGAPORE—Machine for manufacturing cooling coils for air conditioners. Tan Geok Cheng, Mgr., Eastern Auto-Airconditioning Service (importer, retailer), 76 Lorong L, Telok Kurau Rd., Singapore 15. WTD 3/70.

Special industry machinery

35513 — HONDURAS — Equipment for cleaning, husking sesame seeds. Taufik M. Mourra, Bazar America (importer, mfr., retailer), Apartado Postal 235, Tegucigalpa, D.C. WTD 6/70.

35531—MEXICO—Woodworking lathe for manufacture of broom handles. Correspondence in Spanish. Heriberto Hinojosa Canales (importer), Avenida F.I. Madero Ote. 3840, Monterrey, N.L. WTD in prep.

35540—MEXICO—Machinery for manufacture of small cardboard boxes for wooden or wax covered wick safety matches with total production capacity of 100,000 boxes per mo., packed 60 per box. Lic. Raul Valero Gil (mfr.), Aldama Pte. 752, Saltillo, Coahuila. WTD in prep.

35595—MEXICO—Machinery for manufacture of safety matches (wooden or waxcovered wicks with phosphor covered tips) with capacity of 100,000 match boxes per mo., packed 60 per box. Lic Raul Valero Gil (mfr.), Aldama Pte. 752, Saltillo, Coahuila. WTD in prep.

35595 — MEXICO — Machinery (new or used) to make flexible, steel reinforced hoee or tubing used by electrical industry. Industrian Monterrey, S.A. (mfr.), Villagran Norte 1313, Apartado Postal 518, Monterrey, N.L. WTD 5/70.

35595—NICARAGUA — Leather processing machinery, specifically, fleshing, setting out, shaving, measuring, splitting, smoothing out, dusting and stretching machinery, in sizes over 1,500 mm., capacity 50 hides per hr.; pasting dryer with 50 plates; hydraulic press, 750 x 1,500 mm., capacity 25-50 hides per hr. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4/71.

35595—TAIWAN—Machinery for making water-proof adhesive bandages. Pyramid Industry Co., Ltd. (importer, mfr., exporter), 96-1, Jen Ai Rd., Sec. 3, Taipei 106. WTD 10/70.

General industrial machinery

35611—POLAND—Air ejectors and ejectors for marine use. Centromor, Attn: Zygmunt Boniewicz, Vice-Dir. (importer), ul. Okopowa No. 7, Gdansk.

35614 — **NICARAGUA** — One air compressor, minimum capacity 250 lbs. Teneria La Francesa S.A. (mfr.), Apartado Postal 245, Managua. WTD 4/71.

35615—POLAND—Pumps including ballast, circulating, plunger pumps, emergency fire, bilge, self-priming pumps for marine use. Centromor, Attn: Zygmunt Boniewicz, Vice-Dir. (importer), ul. Okopowa No. 7, Gdansk.

35616 — POLAND — Parts, attachments for ballast, circulating, plunger pumps, emergency fire, bilge, self-priming pumps for marine use. Centromor, Attn: Zygmunt Boniewicz, Vice-Dir. (importer), ul. Okopowa No. 7, Gdansk.

35662—POLAND—Steering gear for marine use. Centromor, Attn: Zygmunt Boniewicz, Vice-Dir. (importer), ul. Okopowa No. 7, Gdansk.

General industrial machinery

35690—BRAZIL—Machinery for manufacturing composite cans for paints, industrial oils, food products, for own use. Technical assistance required; potential partner for joint venture at later stage. Artes Graficas Guarani S.A. (mfr.), Rua General Carmona 3, Ponte Grande, ZP 23, Sao Paulo, SP. WTD 4/71.

35690—CYPRUS—Small to medium plant to manufacture dry flashlight cells. Quote c.i.f. Cyprus, include installation, training charges if any. R.E.S. Trading House (importer, dist., agent), 16B Archbishop Makarios III Ave., P.O. Box 2336, Nicosia. WTD 10/70.

35690—JAPAN—Machine to fold and/or wind household appliance electric cords. Kyokuto Boeki Kaisha, Ltd. (importer), 7th Fl., New Otemachi Bldg., 4 Otemachi 2-chome, Chiyoda-ku, Tokyo. WTD 2/71.

Service industry machines

35820—URUGUAY—Dry cleaning plant, complete, for wearing apparel, including tumbler and one clothes pressing machine, for all types of solvents except perclorotilene; 3 phase 220V, 50C, power available. Correspond in Spanish. Tintoreria Juncal & Soca (retailer) Calle Juncal 1410, Montevideo. WTD 4/71.

35857 — **POLAND** — Refrigerating plant for marine use. Zygmunt Boniewicz, Vice-Dir., Centromor (importer), ul. Okopowa No. 7, Gdansk.

35892—SPAIN—Industrial water softeners, conditioners (especially water purification equipment). Correspondence requested in Spanish/French. Depuracion Iberica de Aguas (DEIDA) (importer, dist.), Avenida de la Habana, 17, Madrid (16). WTD 3/71.

Electric transmission, distribution equipment

● **36100—KOREA**—Supply 112 items in various quantities of electric measuring instruments, test equipment, and engineering, laboratory, scientific and research instruments and equipment. Tender No. SLC-51051-P II, bid deadline May 28. Terms and specifications available from the Office of Supply, Government of the Republic of Korea, Seoul.

● **36100 — THAILAND** — Supply 3,000 sets of 15 KV rating fuse cutouts; Tender No. MEA-PSD-235; bid deadline May 31. Purchase & Stores Dept., Metropolitan Electricity Authority, 121 Chakraphet Rd., Bangkok 2. Specifications available from Power Equipment Program, Rm. 5886C, Dept. of Commerce, Wash. D.C. 20230 ★(202-967-4188).

● **36100—TRINIDAD**—Tender No. 2686-3000, 6" bolts and nuts. Tender No. 2187, 33 KV underground cable accessories. Tender No. 2188, 6,000 watt 250 volt incandescent lamps. Bid deadline May 28. Purchasing Office, Trinidad & Tobago Electricity Commission, 63 Frederick St., Port of Spain.

36113—POLAND — Electrical measuring instruments for marine use. Centromor, Attn: Zygmunt Boniewicz, Vice-Dir. (importer), ul. Okopowa No. 7, Gdansk.

Electrical industrial apparatus

36231—JAPAN—Micro spot welding machine for welding thin wire thread, IC's, transistors, other electronic parts. Fuji Tsusho Co., Ltd. (importer, dist.), Rm. 309, No. 1 Shimbashi Station Bldg., 20 Shimbashi 2-chome, Minato-ku, Tokyo. WTD in prep.

Radio, television receiving sets

36514—VENEZUELA—Audio equip. for primary, high schools. Edisa S.A. (Editores) (dist. agent book pub.) Quinta Susana, Avenida Paez, El Paraiso, and Apartado 8364, Caracas. WTD 4/71.

Communication equipment

● **36600—IRELAND**—Supply and supervision of installation of voice frequency telegraph equipment; Tender No. V.F.T.-S.T.S.S. 1/71; bid deadline June 15. Supply and installation of automatic switching equipment; Tender No. LE 1/71; bid deadline June 17. Tender documents available on short-term loan to firms located in the U.S. from the Communications Div., BDC-554, Rm. 4320, Dept. of Commerce, Washington, D.C. 20230 ★ (202-967-4823).

● **36600—KOREA**—Supply spare parts for broadcasting transmitter and tape recorder, electronic tubes, 4 automatic peak controllers, 50 dynamic microphones. Tender No. KFX-71053-PI; bid deadline May 27. Tender documents available on short-term loan to firms located in the U.S. from the Communications Div., BDC-554, Rm. 4320, Dept. of Commerce, Washington, D.C. 20230 ★(202-967-4823).

36621—GERMANY—Test, measurement equipment for radio communication. Drahtlose Nachrichtentechnik GmbH & Co. K.G. (imp., dist., agent), 55 Sodener Str., 6239 Fischbach/Ts. WTD 4/71.

36622—IRELAND — Closed circuit television products, systems. Photo-Scan (Ireland) Ltd. (importer, dist., agent), 34 Kill Abbey, Blackrock, Co. Dublin. WTD 3/71.

36625 — **CYPRUS** — Instrument landing system category II (50 ft.) for airports. Quote c.i.f. Cyprus. Direct purchase & agency. Kypronics Ltd. (importer, dist., agent), 19 Gregory Xenopoulos St., P.O. Box 1152, Nicosia. WTD 4/71.

36625—IRELAND — Electronic security products, systems which can be marketed with present marketing operation. Photo-Scan (Ireland) Ltd. (importer, dist., agent), 34 Kill Abbey, Blackrock, Co. Dublin. WTD 3/71.

Electronic components, accessories

36730 — BELGIUM — Tubes, electron, transmitting, industrial. C.O.M.S.E.T. S.P.R.L.—Common Market Semi Conductors & Electronic Tube Div. (importer, exporter), 10 Rue du Canal, 1000 Brussels. WTD 4/71.

36743 — BELGIUM — Semiconductors: transistors, diodes, etc. C.O.M.S.E.T. S.P.R.L.—Common Market Semi Conductors & Electronic Tube Div. (importer, exporter), 10 Rue du Canal, 1000 Brussels. WTD 4/71.

36795 — **BELGIUM** — Electronic devices, tubes-parts; accessories. C.O.M.S.E.T. S.P.R.L.—Common Market Semi Conductors & Electronic Tube Div. (importer, exporter), 10 Rue du Canal, 1000 Brussels. WTD 4/71.

Engineering, laboratory, scientific, research instruments

38110—ISRAEL — Laboratory/scientific equipment, instrumentation: mechanical engineering and related sciences—specifically thermo-dynamic sciences. For establishing mechanical engineering laboratories at new university. Holon University of Technology, 52 Golomb St., P.O. Box 305, Holon. Attn: Dr. A. Eshel, A/Chairman, Mechanical Eng'g Dept.

38111—POLAND—Nautical instruments. Centromor, Attn: Zygmunt Boniewicz, Vice-Dir. (importer), ul. Okopowa No. 7, Gdansk.

38112—GERMANY—Transducers (mech./electrical), telemetric equipment for medical research. Direct purchase & agency. Hugo Sachs Elektronik KG (importer, mfr., exporter), Am Bahnhof, D-7801 Hugstetten, Baden-Wuerttemberg. WTD 4/71.

Instruments for measuring

● **38200** — **INDIA** — Supply a railway spring testing machine suitable for deflection and scragging tests, complete with all standard and electrical equipment. Tender No. 404/12/069/7.1.71; bid deadline June 22. Invited by the Director General, Supplies & Disposals, Jeevantara Bldg., Parliament St., New Delhi. Tender documents available for $3.50 from the India Supply Mission, 2536 Massachusetts Ave., NW., Washington, D.C. 20008.

38213 — POLAND — Measuring instruments for marine use. Centromor, Attn: Zygmunt Boniewicz, Vice-Dir. (importer), ul. Okopowa No. 7, Gdansk.

Photographic equipment, supplies

38610—FRANCE—Amateur cameras, super-8 in $90 to $270 price range; amateur still cameras $180 and over; photographic laboratory equipment, enlargers. Direct purchase & agency. Etablissements Chotard (importer, dist.), 22, rue Bobillot, 75-Paris 13. WTD in prep.

Toys, amusement, sporting goods

39491—BRAZIL—Sports fishing tackle equipment. Offers from manufacturers with samples, c.i.f. prices. Commercial, Importadora e Exportadora Stella Maris Ltda. (importer, dist., agent), Rua Conego Eugenio Leite 926, Pinheiros, Caixa Postal 11088, Sao Paulo, SP. WTD in prep.

Novelties, buttons, notions

39620 — JAPAN — Schalappen feathers between 4" & 8" in length; saddle & neck feathers between 3" & 6"; miscellaneous feathers between 2½" & 4½"; unselected or mixed feathers; dye feathers; all in bulk. Requests prices f.o.b. U.S. ports or c.i.f. Nagoya. Kasuga Inc. (importer, dist.), P.O. Box No. 72, Higashi, Nagoya. WTD 4/71.

39620 — TAIWAN — Schalappen feather, length 4"-8", natural color, purity 90% or up, quantity 1,000 kgs./month. Poplar Co., Ltd. (importer), 33, Lane 12, Chi Lin Rd., Taipei 104. WTD in prep.

Manufacturing industries

39932—CANADA — Exclusive line cast polyester letters for architectural, sign uses; all types of ceramic, acrylic lettering. Superior Stamp & Stencil Co. Ltd., "Alpha Sign Div.", Attn: J. W. Schofield, Sales Mgr. (importer, dist., mfr.), 1618 E. Hastings St., Vancouver 6, British Columbia. WTD in prep.

39999 — ISRAEL — Audio-visual/educational aids, equipment for instructional, research purposes (in classrooms, laboratory) covering physical/natural sciences, geography/history, social sciences, other curriculum subjects, with special emphasis on film strips, slides, plastic-made equipment. Mediterana International Trade & Investment Co. (dist./wholesale, agent, exporters), 13 Karlebach Ave., Tel Aviv. Attn: Ory M. Nergal, Man. Dir. WTD 3/71.

Motion picture distribution

78130—VENEZUELA—Educational motion pictures for primary, high school. Edisa S.A. (Editores) (dist., agent, book publisher), Quinta Susana, Avenida Paez, El Paraiso, and Apartado 8364, Caracas. WTD 4/71.

Agencies

Specific foreign firms have expressed interest in agency agreements for the products listed below. Exclusive agencies for these products are wanted only if specified.

Field crop farms

01120 — TAIWAN — Raw cotton. Double Happy Trading Co.. Ltd. (importer, agent, exporter), P.O. Box 1598, Taipei. WTD 10/70.

01130 — VENEZUELA — Beans (red, white, black); oats; peas, lentils, all dry. Correspondence in Spanish. River Rey, C.A. (agent, exporter), Apartado 61901 Este, Caracas. WTD in prep.

Tanks, components

19310—TAIWAN—Military vehicle, truck parts. Grace Eng. & Trading Co. Ltd. (imp., agent, exporter), 3rd Fl., 28, Kung Yung Rd., Taipei 100. WTD in prep.

Sighting, fire control equipment

19410—FINLAND — Sighting telescope for sporting, hunting arms. Oy Schroder Ab, Attn: C. Schroder, Man. Dir. (importer, dist., retailer), Italahdenkatu 20, Helsinki 21. WTD 2/71.

Small arms

19512—FINLAND—Small arms for sporting, hunting, related ammunition, tools. Oy Schroder Ab, Attn: C. Schroder, Man. Dir. (importer, dist., retailer), Italahdenkatu 20, Helsinki 21. WTD 2/71.

Canning, preserving foods

20330 — NETHERLANDS ANTILLES — Complete line of canned fruits, vegetables. Exclusive agency. Jan Bodegom & Co. N.V. (importer, agent), P.O. Box 92, Willemstad, Curacao. WTD 7/70.

Grain mill products

20421 — AUSTRIA — Modern poultry feeds, feed supplements, concentrates. RUBO Vertriebsgesellschaft mbH (importer, agent), Schottenfeldgasse 27, P.O. Box 299, A-1071 Vienna. WTD 4/71.

20422 — AUSTRIA — Modern livestock feeds, feed supplements, concentrates. RUBO Vertriebsgesellschaft mbH (importer, agent), Schottenfeldgasse 27, P.O. Box 299, A-1071 Vienna. WTD 4/71.

20424—AUSTRIA—Modern prepared animal feeds, feeding materials, adjuncts. RUBO Vertriebsgesellschaft mbH (importer, agent), Schottenfeldgasse 27, P.O. Box 299, A-1071 Vienna. WTD 4/71.

Food preparations

20911 — VENEZUELA — Cottonseed oil, crude. Correspondence in Spanish. River Rey, C.A. (agent, exporter), Apartado 61901 Este, Caracas. WTD in prep.

20932—VENEZUELA—Peanut oil. Correspondence in Spanish. River Rey, C.A. (agent, exporter), Apartado 61901 Este, Caracas. WTD in prep.

Broad woven fabric mills, cotton

22114 — ENGLAND — Cotton denim for making pants, jeans. P.M. Agencies Ltd., c/o E. G. Emms (agent), Pulham Market, Diss, Norfolk. WTD in prep.

22114 — SWEDEN — Damasks, brocades of cotton in traditional or modern design. Furntex International (importer, dist., agent), Pontoniergatan 16, S-112 37 Stockholm. WTD in prep.

22116—ENGLAND—Cotton corduroy for making pants, jeans. P.M. Agencies Ltd., c/o E. G. Emms (agent), Pulham Market, Diss, Norfolk. WTD in prep.

22116—SWEDEN—Upholstery and bedspread fabrics of velvet, cotton, or chiefly cotton in traditional or modern designs. Furntex International (importer, dist., agent), Pontoniergatan 16, 112 37 Stockholm. WTD in prep.

Broad woven fabric mills, manmade fiber, silk

22217—TAIWAN—Silk fabrics for making cartridge bags. Grace Engineering & Trading Co., Ltd. (importer, agent, exporter), 3rd Fl., 28, Kung Yung Rd., Taipei 100. WTD in prep.

22218 — SWEDEN — Curtain, drapery, bedspread fabrics of finished manmade fiber in traditional or modern design; upholstery fabrics of nylon pile. Furntex International (importer, dist., agent), Pontoniergatan 16, S-112 37 Stockholm. WTD in prep.

22219—SWEDEN—Bedspreads and bed linen of manmade fiber fabrics in traditional or modern designs. Furntex International (importer, dist., agent), Pontoniergatan 16, S-112 37 Stockholm. WTD in prep.

Broad woven fabric mills, wool

22314—SWEDEN—Upholstery fabrics of wool in traditional or modern designs. Furntex International (importer, dist., agent), Pontoniergatan 16, S-112 37 Stockholm. WTD in prep.

Dyeing, finishing textiles, except wool fabrics, knit goods

22690—SWEDEN—Upholstery fabrics of linen in traditional or modern designs. Furntex International (importer, dist., agent), Pontoniergatan 16, S-112 37 Stockholm. WTD in prep.

Men's, youths', boy's furnishings, work clothing

23221—SWEDEN—Undershirts, made of cotton. AB Ruben Nordfelt (importer, agent), 1 A Eriksbergsgatan, S-114 30 Stockholm. WTD 4/71.

Fabricated textile products

23926 — SWEDEN — Ready-made bedspreads in traditional or modern designs. Furntex International (importer, dist., agent), Pontoniergatan 16, S-112 37 Stockholm. WTD in prep.

23940—FINLAND—Tents for camping. Oy Schroder Ab, Attn: C. Schroder, Man. Dir. (importer, dist., retailer), Italahdenkatu 20, Helsinki 21. WTD 2/71.

23990—FINLAND—Sleeping bags, inflatable mattresses. Oy Schroder Ab, Attn: C. Schroder, Man. Dir. (importer, dist., retailer), Italahdenkatu 20, Helsinki 21. WTD 2/71.

Wood products

24995—JAMAICA—Wood novelties, specialties. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ocho Rios, St. Ann. WTD 4/71.

Household furniture

25144—JAMAICA — Card tables, folding tray tables. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ocho Rios, St. Ann. WTD 4/71.

Converted paper, paperboard products

26492 — JAMAICA — Gift wrap paper. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ocho Rios, St. Ann. WTD 4/71.

Building paper, board mills

26611 — FRANCE — Vegetable fiber ceilings, mineral fiber ceilings. Nord-Profil (mfr.), Zone Industrielle, 59-Flers-Douai. WTD in prep.

Industrial chemicals

28181—PAKISTAN — Chemicals for use in textile industry. Requests catalogs, quotations c. & f., Karachi. Habib Haji Tayub (agent), N.P. 1/30, Near Bullion Exchange, Opp. Mithadhar Imamwada, Karachi. WTD in prep.

Synthetic materials

28219—FRANCE—Plastic or reinforced plastic gutter materials for commercial, industrial, mass-produced residential housing roofs; specialized plastic sheets used in paving floor surfaces; plastic sheets for protecting work sites; reinforced plastic material protection clothing; specialized plastic sheets for made-to-measure garage doors; reinforced plastic material for greenhouse protection; specialized reinforced plastic material for water dams, all water-tightness problems; specialized reinforced plastic materials for concrete drying for use in prefabricated buildings. Griltex S.A. (dist., mfr.), 29, rue Cavelle, 59- Roubaix. WTD in prep.

Gum, wood chemicals

28612—TAIWAN—Natural dyestuffs, extracts. Double Happy Trading Co., Ltd. (importer, agent, exporter), P.O. Box 1598, Taipei. WTD 10/70.

Chemical products

28993 — MEXICO — Vitreous enamels (frits) used by ceramic industry in manufacture of bathroom fixtures; foundry supplies such as binders, facings, fluxes, parting compounds used in gray iron castings. Ing. Baudlio E. Salazar Davila (importer, dist., agent), Heroes del 47 Norte 1147, Apartado Postal 2067, Monterrey, N.L. WTD in prep.

28993—SWITZERLAND—Synthetic rubber, plastic sealing compounds, sealing wax, oilseals, for hydraulics, chemical machinery. Neotecha AG (importer, dist., agent), Fabrikweg, 8634 Hombrechtikon. WTD in prep.

Fabricated rubber products

30695—SWITZERLAND — Rubber packing, O-rings for hydraulics, chemical machinery. Neotecha AG (importer, dist, agent), Fabrikweg, 8634 Hombrechtikon. WTD in prep.

Plastic products

30794—ENGLAND—Plain and decorated plastic containers; containers made from combinations of plastic and one or more other materials such as cardboard, metal. Wilkie & Paul Ltd., Attn: R. W. Gray, Marketing Dir. (mfr.), Grove Works, Slateford Rd., Edinburgh, Scotland, EH14 1RF. WTD in prep.

Footwear, except rubber

31411 — SWEDEN — Ski boots, other sports shoes. AB Ruben Nordfelt (importer, agent), 1 A Eriksbergsgatan, S-114 30 Stockholm. WTD 4/71.

Glass, glassware

32291 — JAMAICA — Novelty glassware. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ocho Rios, St. Ann. WTD 4/71.

Pottery, related products

32630—SWITZERLAND—Quality, earthenware table articles. Hans Katzenstein (dist., agent), Buchzelgstrasse 60, 8053 Zurich 7. WTD 4/71.

Abrasive, asbestos, nonmetallic mineral products

32932—SWITZERLAND — Rubber, plastic, metal gaskets for hydraulics, chemical machinery. Neotecha AG (importer, dist., agent), Fabrikweg, 8634 Hombrechtikon. WTD in prep.

32950—MEXICO—Ground clays such as kaolin, bentonite, etc., used in ceramic industry for manufacture of vitreous china such as toilets, washbowls, tubs, etc. Ing. Baudlio E. SALAZAR Davila (dist., agent), Heroes del 47 Norte 1147, Apartado Postal 2067, Monterrey, N.L.

Steel mill products

33122—TAIWAN—Steel ingots and semi-finished shapes: high-grade steel for arsenal use, AISI hot work steel or SAE H21. Grace Engineering & Trading Co., Ltd. (imp., agent, exporter), 3rd Fl., 28, Kung Yung Rd., Taipei 100. WTD in prep.

33176—ISRAEL—Steel pipes; seamless, welded. Exclusive agency. A.A. Industrial Projects Co. Ltd. (importer, agent), P.O. Box 392, Herzlia "B". WTD in prep.

Rolling, drawing, extruding of nonferrous metals

33527—PAKISTAN—Aluminum ingots, circles. Requests quotations, c. & f., Karachi. Allied Mercantile Syndicate (agent), Motan Bldg., Bunder Rd., Karachi-2. WTD in prep.

Primary metal industries

33992—TAIWAN—Primary metal products: brass or steel disc. Grace Engineering & Trading Co., Ltd. (importer, agent, exporter), 3rd Fl., 28, Kung Yung Rd., Taipei 100. WTD in prep.

Cutlery, hand tools, general hardware

34211—FINLAND—Hunting knives. Oy Schroder Ab, Attn: C. Schroder, Man. Dir. (importer, dist., retailer), Italahdenkatu 20, Helsinki 21. WTD 2/71.

34211—JAMAICA—Carving sets, pocket knives. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ocho Rios, St. Ann. WTD 4/71.

34211—SWITZERLAND—Quality household and table cutlery, novelties only. Hans Katzenstein (dist., agent), Buchzelgstrasse 60, 8053 Zurich. WTD 4/71.

34232—SWITZERLAND—Quality household hand tools, labor saving devices, do-it-yourself novelties, all kinds. Hans Katzenstein (dist., agent), Buchzelgstrasse 60, 8053 Zurich 7. WTD 4/71.

34295—SWITZERLAND—Quality household hardware, gift items, novelties. Hans Katzenstein (dist., agent), Buchzelgstrasse 60, 8053 Zurich 7. WTD 4/71.

Metal stampings

34615 — FINLAND — Cookingware for camping. Oy Schroder Ab, Attn: C. Schroeder, Man. Dir. (importer, dist., retailer), Italahdenkatu 20, Helsinki 21. WTD 2/71.

Fabricated wire products

34811—PAKISTAN—Steel wire rope. Requests catalogs, quotations, c. & f., Karachi. Shams Traders (agent), 60, Al-Noor Auto Market, Preedy St., Saddar, P.O. Box 7537, Karachi. WTD in prep.

Fabricated metal products

34940—ENGLAND—Steam valves; automatic regulating valves; reducing valves. Midland Industries Ltd., Attn: P. W. McKenzie, Deputy Chairman (mfr., exporter), Heath Town Works, Wolverhampton, Staffs. WTD in prep.

34990—FINLAND — Birdcalls: whistles. Oy Schroder Ab, Attn: C. Schroder, Man. Dir. (importer, dist., retailer), Italahdenkatu 20, Helsinki 21. WTD 2/71.

Farm machinery

35220 — PANAMA — Farm machinery, equipment. AGRO, S.A. (importer, agent, retailer), P.O. Box 3417, Panama 4. WTD 4/71.

35222 — AUSTRIA — New farm implements attachable to wheel tractors. RUBO Vertriebsgesellschaft mbH, (importer, agent), Schottenfeldgasse 27, P.O. Box 299, A-1071 Vienna. WTD 4/71.

35223 — AUSTRIA — Advanced planting, seeding, fertilizing machinery, parts. RUBO Vertriebsgesellschaft mbH (importer, agent), Schottenfeldgasse 28, P.O. Box 299, A-1071 Vienna. WTD 4/71.

35224—AUSTRIA—Advanced farm machines including plows, listers, harrows, rollers, pulverizers, stalk cutters, etc. RUBO Vertriebsgesellschaft mbH (importer, agent), Schottenfeldgasse 27, P.O. Box 299, A-1071 Vienna. WTD 4/71.

35225 — AUSTRIA — Modern harvesting machinery for grain, potatoes, fruit, etc. RUBO Vertriebsgesellschaft mbH (importer, agent), Schottenfeldgasse 27, P.O. Box 299, A-1071 Vienna. WTD 4/71.

35226—AUSTRIA—Labor saving haying machinery for mountainous areas. RUBO Vertriebsgesellschaft mbH (importer, agent), Schottenfeldgasse 27, P.O. Box 299, A-1071 Vienna. WTD 4/71.

35227—AUSTRIA—New developments in lawn mowers. RUBO Vertriebsgesellschaft mbH (importer, agent), Schottenfeldgasse 27, P.O. Box 299, A-1071 Vienna. WTD 4/71.

35228—AUSTRIA — Advanced farm machinery, particularly farm poultry equipment, farm dairy machines, barn and barnyard equipment. RUBO Vertriebsgesellschaft mbH (importer, agent), Schottenfeldgasse 27, P.O. Box 299, A-1071 Vienna. WTD 4/71.

Construction, mining, materials handling machinery, equipment

35351 — ISRAEL — Pneumatic transport (tube) systems for documents, products. Exclusive agency. A.A. Industrial Projects Co. Ltd. (importer, agent), P.O. Box 392, Herzlia "B". WTD in prep.

35370—ISRAEL—Airport equipment including ground and servicing equipment for airplanes, specifically 747 jets. Exclusive agency. A.A. Industrial Projects Co. Ltd. (importer, agent), P.O. Box 392, Herzlia "B". WTD in prep.

Metalworking machinery

35411 — AUSTRALIA — Boring machin-

ery. The Fletcher Organisation Pty. Ltd., Machine Tool Div., D. J. Lowry, Mgr. (importer, dist., retailer), 37-39 Whiting St., P.O. Box 3, Artarmon, N.S.W. 2064. WTD in prep.

35412—AUSTRALIA—Radial and pedestal drilling machines: conventional, N.C. control. The Fletcher Organisation Pty. Ltd., Machine Tool Div., D. J. Lowry, Mgr. (importer, dist., retailer), 37-39 Whiting St., P.O. Box 3, Artarmon, N.S.W. 2064. WTD in prep.

35414—AUSTRALIA—Grinders, surface, cylindrical. The Fletcher Organisation Pty. Ltd., Machine Tool Div., D. J. Lowry, Mgr. (importer, dist., retailer), 37-39 Whiting St., P.O. Box 3, Artarmon, N.S.W. 2064. WTD in prep.

35415 — AUSTRALIA — Center lathes: conventional, N.C. control. The Fletcher Organisation Pty. Ltd., Machine Tool Div., D. J. Lowry, Mgr. (importer, dist., retailer), 37-39 Whiting St., P.O. Box 3, Artarmon, N.S.W. 2064. WTD in prep.

35416—AUSTRALIA—Milling machines: conventional, N.C. control. The Fletcher Organisation Pty. Ltd., Machine Tool Div., D. J. Lowry, Mgr. (importer, dist., retailer), 37-39 Whiting St., P.O. Box 3, Artarmon, N.S.W. 2064. WTD in prep.

35418—AUSTRALIA—Sawing machines for metal, spark erosion (EDM) machines. The Fletcher Organisation Pty. Ltd., Machine Tool Div., D. J. Lowry, Mgr. (importer, dist., retailer), 37-39 Whiting St., P.O. Box 3, Artarmon, N.S.W. 2064. WTD in prep.

35418—ISRAEL — Steel pipe machinery, related equipment. Exclusive agency. A.A. Industrial Projects Co. Ltd. (importer, agent), P.O. Box 392, Herzlia "B". WTD in prep.

35420—ISRAEL—Hydraulic presses, related equipment. Exclusive agency. A.A. Industrial Projects Co. Ltd. (importer, agent), P.O. Box 392, Herzlia "B". WTD in prep.

35450—AUSTRALIA—All types of metalworking machinery accessory equipment. The Fletcher Organisation Pty. Ltd., Machine Tool Div., D. J. Lowry, Mgr. (importer, dist., retailer), 37-39 Whiting St., P.O. Box 3, Artarmon, N.S.W. 2064. WTD in prep.

35484 — SWITZERLAND — Automotive maintenance equipment, service station equipment; all kinds. FIBAG, Attn: E. Welti (importer, dist.), Kernstrasse 57, 8026 Zurich. WTD 4/71.

Special industry machinery

35520 — ENGLAND — Embroidery machines; cloth spreading machines; pattern grading machines; cloth cutting machines. H. Singer Ltd., Attn: J. Andrews, Dir. (importer, dist.), 49 Mortimer St., London, W.1. WTD in prep.

35595—ISRAEL—Mechanical parking facilities, equipment, related accessories. Exclusive agency. A.A. Industrial Projects Co. Ltd. (importer, agent), P.O. Box 392, Herzlia "B". WTD in prep.

General industrial machinery

35616—TAIWAN—Water pumps. Double Happy Trading Co., Ltd. (imp., agent, exp.), P.O. Box 1598, Taipei. WTD 10/70.

35673—FRANCE—Electric heating equipment: storage type-units heating fluids in storage tanks which are integral part of heating unit. All sizes for residential, small commercial industrial use (small offices in plants, warehouses, etc.) fan systems-units so organized to allow fan to blow over heating element. 220 volts, 50 cycle standard; French-type male plug consists normally of two round prongs, not flat prongs. Suppliers may wish to comment on availability of adapters in quotations. Cid-Accumulation (importer, dist., mfr.), 97, ave. Pasteur, 93-Les Lilas. WTD in prep.

Office, computing machines

35731 — GERMANY — Small computers for educational purposes. Gesellschaft f. Regelungstechnik u. Simulationstechnik GmbH (importer, dist., agent), 35 Im Hillsbruch, 6100 Darmstadt-Arheilgen. WTD 4/71.

35733—FRANCE — Parts, attachments for electronic computing equipment: keyboards, memories. Almex, S.A. (importer, dist., agent), 110, rue Pierre Brossolette, 92 Chatillon s/Bagneux. WTD 2/71.

Service industry machines

35820 — HONG KONG — Permanent presses for garment factory. Kai Ming Trading Co., Ltd. (importer, dist., agent), 802 Bank of East Asia Bldg., P.O. Box 844. Cable: KAING Hong Kong. WTD 4/71.

35852 — FRANCE — Air conditioning equipment. ACOVA (mfr., exporter), 8, rue Gauguet 75-Paris 14e. WTD 1/71.

35852—YUGOSLAVIA—Air conditioning equipment; commercial and industrial refrigeration machinery, equipment. "Soko", Kombinat Mostar, Attn: Obreht J. Stefan, Assist. Man. Dir. (mfr., agent), 79000 Mostar. WTD in prep.

35857 — HONG KONG — Automobile air conditioners. Kai Ming Trading Co., Ltd. (importer, dist., agent), 802 Bank of East Asia Bldg., P.O. Box 844. Cable: KAING Hong Kong. WTD 4/71.

Machinery

35990—SWITZERLAND—Metallic packing, compression type piston rings for hydraulics, chemical machinery. Neotecha AG (importer, dist., agent), Fabrikweg, 8634 Hombrechtikon. WTD in prep.

Electric transmission, distribution equipment

36112 — SOUTH AFRICA — Destructive testing equipment of any nature. Atalanta (Pty.) Ltd., Attn: A. Booty (importer, dist., agent), P.O. Box 3956, Johannesburg, Transvaal. WTD 4/71.

36112—SWITZERLAND—Testing instruments for automotive trade, service stations; all kinds. FIBAG, Attn: Mr. E. Welti (importer, dist.), Kernstrasse 57, 8026 Zurich. WTD 4/71.

36122—TAIWAN — Power transmission and distribution transformers; equipment. Grace Engineering & Trading Co., Ltd. (importer, agent, exporter), 3rd Fl., 28, Kung Yung Rd., Taipei 100. WTD in prep.

Communication equipment

36620 — SWITZERLAND — Professional electronics; radio, television communication equipment, parts. Requests offers from manufacturers only. Impetus SA, Attn: Terence E. Furey (agent), Via Bern 2, 6900 Lugano. WTD 4/71.

36624—GERMANY — Electronic airborne navigational aids. Luftfahrtelektronik Frankfurt GmbH (importer, dist., agent), Flughafen, 6073 Egelsbach. WTD 4/71.

36626—GERMANY—Electronic teaching aids, trainers, simulators, etc. Gesellschaft f. Regelungstechnik u. Simulationstechnik GmbH (importer, dist., agent), 35 Im Hilsbruch, 6100 Darmstadt-Arheilgen. WTD 4/71.

36626 — SWITZERLAND — Geophysical electronic equipment, all kinds. Terratest S.A. (importer, dist.), P.O. Box 2154, 1002 Lausanne. WTD 3/71.

Electronic components, accessories

36740—FRANCE—Semiconductors, other active components. International Semiconductor Corp.-France (importer, agent, exporter), 20, rue de Bellevue, 92-Boulogne-Billancourt. WTD in prep.

36790 — FRANCE — Electronic components, accessories; integrated circuits. Almex, S.A. (importer, dist., agent), 110, rue Pierre Brossolette- 92 Chatillon s/Bagneux. WTD 2/71.

36790 — FRANCE — Electronic components: integrated circuits, other active components. International Semiconductor Corp.-France (importer, dist., agent, exporter), 20, rue de Bellevue, 92-Boulogne Billancourt. WTD in prep.

36792 — FRANCE — Connectors. Perena (mfr., agent, exporter), 16 Blvd. de Charonne, Paris, 20e. WTD 7/70.

Motor vehicles, equipment

37141—ENGLAND — Automobile piston pins, fully finished. Bartella Ltd. Attn: Dennis J. Mabbutt, Technical Sales Dir. (agent), 22/25 Sackville St., London, W1X 1DE. Cables ALLETRAB, LONDON; telex 23369. WTD in prep.

37141 — PAKISTAN — Automotive parts such as pistons, rings; shock absorbers, brake linings, clutch plates. Requests catalogs, quotations, c. & f., Karachi. Rex Inter-Continental (agent), 230, Al-Hayat Plaza Sq., Bunder Rd., Karachi-3. WTD in prep.

Engineering, laboratory, scientific, research instruments

38111—GERMANY—Aeronautical instruments. Luftfahrtelektronik Frankfurt GmbH (importer, dist., agent), Flughafen, 6073 Egelsbach. WTD 4/71.

38112 — SWITZERLAND — Measuring, testing, other scientific instruments for construction industry, civil engineering. Terratest S.A. (importer, dist.), P.O. Box 2154, 1002 Lausanne. WTD 3/71.

Instruments for measuring, controlling, indicating physical characteristics

38213 — ISRAEL — Industrial process/control instruments. Exclusive agency. Industrial Controls Ltd. (importer, agent), 79 Yehuda Halevy St., P.O. Box 14095, Tel Aviv. WTD in prep.

38213 — SWITZERLAND — Ultrasonic testing equipment, materials testing instruments, all kinds. Terratest S.A. (importer, dist.), P.O. Box 2154, 1002 Lausanne. WTD 3/71.

38216 — THAILAND — Fire alarms. Requests catalogs, c.i.f. Bangkok prices. Exclusive agency. Device Trading Ltd. Partnership (importer, dist.), 222/11-12 Larn Luang Rd., Bangkok. WTD in prep.

Toys, amusement, sporting goods

39410—JAMAICA—Games, toys. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ocho Rios, St. Ann. WTD 4/71.

39420 — JAMAICA — Dolls, stuffed toy animals. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ocho Rios, St. Ann. WTD 4/71.

39491—FINLAND—Fishing rods, reels, lures, lines. Oy Schroder Ab, Attn: C. Schroder, Man. Dir. (importer, dist., retailer), Italahdenkatu 20, Helsinki 21. WTD 2/71.

39493—FRANCE—Bowling alley playing supplies; bowling balls. Bowling International de Bordeaux (importer), 244, ave. de la Marne, 33-Merignac. WTD 11/70.

39493 — ISRAEL — Swimming pools, above-ground. A.A. Industrial Projects Co. Ltd. (importer, agent), P.O. Box 392, Herzlia "B". WTD in prep.

39493—SWEDEN—Snow skis, other articles, "novelties". AB Ruben Nordfelt (importer, agent), 1 A Eriksbergsgatan, S-114 30 Stockholm. WTD 4/71.

Pens, pencils

39510—JAMAICA—Ball point pens, desk sets. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ocho Rios, St. Ann. WTD 4/71.

Costume jewelry, novelties

39610 — JAMAICA — Costume jewelry. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ochos Rios, St. Ann. WTD 4/71.

Manufacturing industries

39990—SWITZERLAND — Miscellaneous novelties, household products, gift ware. Hans Katzenstein (dist., agent), Buchzelgstrasse 60, 8053 Zurich 7. WTD 4/71.

39991—ISRAEL — Chemical fire fighting equipment, parts: portable/mobile/fixed systems. Exclusive Agency. A.A. Industrial Projects Co. Ltd. (importer, agent), P.O. Box 392, Herzlia "B". WTD in prep.

39999—JAMAICA—Tobacco pipes, cigarette lighters. Quotations: c.i.f. Kingston. Vernon Lindo Ltd., Vernon C. Lindo, Mgr. (importer, retailer), P.O. Box 28, Ocho Rios, St. Ann. WTD 4/71.

Services

89110 — FRANCE — Software packages for management (payment of bills, salaries, etc.) packages for remote processing of data and timesharing. Societe de Teleinformatique (agent, engineering service/software, consulting), 58, rue des Dessous des Berges, Paris 13e. WTD 4/71.

Unit At Romania Fair Has 300 Trading Opportunities

American businessmen interested in trade with Romania may contact the Commerce Department concerning 300 inquiries received during the 1970 Bucharest International Fair in which the Commerce Department sponsored a Business Development Office (BDO).

Sales opportunities were recorded for the following categories: electronic components, agricultural equipment, instruments and controls, medical equipment, food processing apparatus, and office machinery.

Contact Christopher Stowell, 202-967-5331, Dept. of Commerce, Rm. 3106, Washington, D.C. 20230.

Other Foreign Official Tenders

BRAZIL—The Companhia Metropolitana De Agua De Sao Paulo issued Tender No. 02/71 for the supply of telemetering and telecommunications equipment. Bid deadline is June 1. Copies of prequalification information and specifications available from COMASP, Departamento De Estudos Economicos, Ave., Paulista 1754, 3 Andar, Sao Paulo for $100 per set. Copies of bid summary in Portuguese available on a short-term loan to firms located in the U.S. the Communications Div., BDC-554, Rm. 4320, Dept. of Commerce, Washington, D.C. 20230 ★ (202-967-4823).

INDIA—The Directors General Supplies and Disposals issued Tender No. ES4/202/34/233/CELL-40 for the supply of 2,000 ALNICO generators, 3 watt type. Bid deadline June 16. Copies of tender announcement and specifications available from the India Supply Mission, 2536 Massachusetts Ave. NW., Washington, D.C. 20008, for $2 per set or on a short-term loan to firms located in the U.S. from the Communications Div., BDC-554, Rm. 4320, Dept. of Commerce, Washington, D.C. 20230 ★ (202-967-4823).

MALAGASY—The Societe d'Equipement Immobilier de Madagascar, 26 rue de Liege, Tananarive, a public-private construction firm, announced an invitation for tenders for the supply of 9 different lots of building materials and office building equipment for a $3.6 million, 67 hectare "Grand Axis" office building development project in Tananarive. The lots are: Lot 1: floor covering and facing, 38,000 square meters. Lot 2: sanitary equipment (pedestal type toilets and wash-basins), 350 items. Lot 3: movable partitions, 4,500 linear meters or 14,000 square meters. Lot 4: exterior metallic fixtures, 11,000 square meters. Lot 5: electrical equipment (fluorescent lights with tubes), 4,500 items, power socket outlets and switches, 2,800 items. Lot 6: lifts, 16 items. Lot 7: glazing products, 11,000 square meters. Lot 8: cement, 5,000 metric tons. Lot 9: 1,500 metric tons of steel. Tenders documents in French on view at the Malagasy Embassy, 2374 Massachusetts Ave, NW., Washington, D.C. The documents may also be purchased in Malagasy francs per lot number indicated: 1: 10,000. 2: 10,000. 3: 25,000. 4: 25,000. 5: 5,000. 6: 15,000. 7: 10,000. 8: 5,000, and 9: 5,000. To cover mailing, U.S. firms must increase the prices indicated by 15%. Payment by money order in Malagasy francs. Firms must tender for the whole of the quantity or quantities indicated in the lot. Each lot is considered as a separate tender. Submit samples. Tenders and samples due June 13.

SOUTH AFRICA—The South African Iron & Steel Corp., a government firm, desires tenders for a compressed air plant (centrifugal air compressors, air cleaners, air driers) and associated equipment. Tender No. N19; Bid deadline June 17. Enquiry documents obtainable from: Head, Capital Buying, South African Iron & Steel Corp., a government firm, toria, Transvaal. A deposit of $70 is required; refundable upon receipt of bona fide tender. Copy of official notice of the project available from the Construction & Engineering Div., BDC-556, Dept. of Commerce, Washington, D.C. 20230 ★ (202-967-3602), and the Commerce Field Office, 11444 Federal Bldg., 450 Golden Gate Ave., San Francisco, Calif. 94102 (415-556-5868).

TRINIDAD, W.I.—The Purchasing Officer, Trinidad & Tobago Electricity Commission, 63 Frederick St., Port of Spain, Trinidad, W.I., invites these tenders: Tender No. 2062, distribution switchgear; No. 2063/4/5, transformers; No. 2198, A.C.S.R. conductor; No. 2199, cutouts; No. 2200, aluminum conductor; No. 2201, underground cable; No. 2202, fluorescent fittings; No. 2203, stranded conductor. Tender documents available from the Power Equipment Program, Rm. 5886C, Dept. of Commerce, Washington, D.C. 20230 ★(202-967-4188).

YUGOSLAVIA — The Yugoslav Posts, Telegraphs & Telephones announced the availability of tender documents for a satellite earth station. The cost is $300. Deadline for submission of bids is July 29. The U.S. Embassy, Belgrade, will assist firms in obtaining tender documents. Requests received via cable will be expedited by the Embassy, and the PTT will immediately post documents to specified addresses. Thereafter, firms should mail checks payable to the Yugoslav PTT for deposit in account 1414, Jugobanka, Filijala Beograd, Marsala Tita 11, 11000 Beograd, with designation that payment is being made for the "Earth Satellite Station".

Future Construction Abroad

ARGENTINA—The Government of the Province of Santa Fe announced it will purchase about $1.25 million worth of **police-type arms and safety equipment** for the Provincial Police Force. Contact Gen. de Division (RE), Don Guillermo Ruben Sanchez Almeyra, Gobernador de la Provincia de Santa Fe, Santa Fe, Provincia de Santa Fe, Argentina. Suppliers should also contact the Office of Munitions Control, Dept. of State, Washington, D.C. 20525, for export application.

ARGENTINA—A decision on the bidder for a 10.3 km. extension of lines "B" and "D" of the Buenos Aires **subway system** will be announced in October 1971, and completion of the work is planned for the end of 1973. Technical specifications, when available, may be obtained from the following: Ing. Pedro Alas Festa, Gerente, Departamento Tecnico, Bme. Mitre 3342, Buenos Aires, or Departamento de Estudios y Proytectos, Bme. Mitre 3342, Buenos Aires.

ARGENTINA—The Paraguayan-Argentine Mixed Technical Commission for the Yacyreta-Apipe Hydro Project requests proposals for a complete **technical and**

economic feasibility study of a $750 million project located in the Parana River between Posadas and Corrientes. Interested consultants may obtain documents from the following: Comision Mixta Tecnica Paraguayo-Argentina de Yacyreta-Apipe, Avenida Roque Saenz Pena 501, Buenos Aires or Avenida Mcal. Lopez y Vice-Presidente Sanchez, Asuncion, for $250 a copy. Additional copies $65 each. Proposals will be opened in the offices of the Commission at 3 p.m., June 1.

AUSTRALIA — Approval has been granted for the **redevelopment of the East Rocks area of Sydney.** At an estimated cost of $560 million and 15 years to complete, this is the largest redevelopment undertaken in Australia. The entire area of 53 acres is now owned by the Sydney Cove Redevelopment Authority. Some sites should go on the market within a few weeks and actual construction will start before the end of 1971.

AUSTRIA—To improve the city's protection against floods, the Vienna Municipality intends to start work this year on the **major flood protection project.** Invitations to bid on the various parts of the project will be published in the Official Gazette of "Wiener Zeitung."

CANADA—Construction on a $1.3 million, 174-unit **apartment building for senior citizens,** located at Vista Crescent and Mary Ave., Burnaby, is expected to begin soon. Write to: Norman S. Jones, Architect, 1587 W. 8th Ave., Vancouver, British Columbia.

CANADA—A $1.5 million newspaper plant and offices are being planned by Columbian Newspaper, New Westminster. Direct inquiries to: J. H. Storm, Business Manager, Columbian Newspaper, 35 - 6th St., New Westminister, British Columbia.

CANADA—A $3 million, 48-acre car receiving and general cargo terminal will be constructed by Canadian Motor Industries Ltd., (a subsidiary of Mitsui & Co., Tokyo) of Toronto, at the end of No. 6 Rd. in Richmond. Direct inquiries to: W. D. Lewichy, Project Engineer, Foundation of Canada Ltd., 295 E. 11th Ave., Vancouver, British Columbia.

CANADA—A $3 million, 106-unit apartment building, Musqueam Park Apartments, is being planned for Vancouver. Write: T. Kahn, pres. of Construction, Block Brothers Industries Ltd., 1030 West Georgia St., Vancouver 5, British Columbia.

CANADA—Construction has begun on stage one of the $16 million **Scottsdale Town Centre,** Delta. Stage one will feature a $4.5 million shopping center complex. Firms interested in bidding on supplies and equipment for the shopping center should write to M. W. Loudon, Manager, A & B Construction, 2595 McCulloch Rd., Nanaimo, British Columbia.

CANADA—Construction of a 135-unit, $1 million **apartment building** in Vancouver is expected to commence soon. Inquiries from interested U.S. firms concerning bids on supplies and equipment for the apartment building should be sent to William McCulloch, Pres., Rie-Mac Holdings, 7765 Kentwood, Burnaby, B.C.

CANADA—Working drawings have been completed for a **84-unit senior citizens high-rise apartment building project** which will be constructed at 1025 Cornwall St., New Westminster. Working drawings are also under way on a **44-unit motel** located at 730 Clarke Rd., Coquitlam. Both projects are being handled by Paul E. Hansen, Architect, 513 Columbia St., New Westminster, British Columbia.

CANADA—The Iron Ore Co. of Canada announced **expansion of iron ore pelletizing facilities** at Labrador City by an additional ten million tons per year. J. A. Layden, Mgr., Material Services, Iron Co. of Canada, Sept Isles, Quebec.

CANADA—Nissan Automobile Co. (Canada) Ltd. reportedly plans a $100 million **car plant** somewhere in eastern Canada.

FRANCE—The city of Nimes plans the **development of Port Camargue on the Mediterranean coast** approximately 40 km. from Nimes and 25 km. from Montpellier. Write: Jean Lassere, Secretary General, Chamber of Commerce of Nimes, 30-Nimes.

FRANCE—Societe du Caoutchouc Butyl (Socabu), subsidiary of Esso Chemical Co. and Compagnie Francaise de Raffinage, will build an **ethylene-propylene synthetic rubber complex** in Seine Maritime at Notre-Dame de-Gravenchon. Socabu will use the processes of Esso Research and Engineering Co.

GERMANY—The city of Stuttgart announced the establishment of a company called Gemeinschaftskraftwerk Neckar-GKN, an enterprise that will **build and operate a 775-megawatt nuclear power plant** in Neckarwestheim, 20 miles northeast of Stuttgart. Construction should start in September, with test operations completed by December 1, 1975. The four partners have neither made a decision on the type of reactor to be built, nor on the supplier. Although there is no general contractor, firms interested in the sale of instruments and accessories may wish to inquire with Kraftwerk Union, 433 Muelheim/Ruhr, West Germany, or directly with Westinghouse.

GREECE—The Minister of Coordination announced the **1971 program of purchases of equipment and supplies.** A copy of "The Government of Greece's Program of Purchases for 1971" can be obtained from Business Opportunities Staff, 580-BOS, Dept. of Commerce, Washington, D.C. 20230.

JAMAICA—Sidney M. Abrahams, Jr., Gen. Mgr., Tropical Battery Co. Ltd., 14 Ashenheim Rd., P.O. Box 148, Kingston 11, announced plans to build a 30,000 sq. ft. **factory for the manufacture of automobile and industrial batteries.**

JAMAICA—The World Bank approved a loan of $13.2 million to complete the **second stage of Jamaica's Education Program.** Tenders are not expected to be ready before mid-1972. Write: L. P. Brown, Project Dir., World Bank Project Unit, Ministry of Education, 5 South Race Course, Kingston 4.

JAMAICA—The West Indies Yeast Co. is building a new plant on six acres in Spanish Town, 15 miles west of Kingston, to **produce fresh and dry yeast** for sale to the Carifta market. The Architect-Engineer is: Caribbean Engineering Management Co., subsidiary of Warren Anderson & Assoc. (Consulting Engineers), 1b Oxford Rd., Kingston 5.

JAMAICA—Seprod Ltd., Industrial Estates, Kingston, is planning to construct a **corn milling plant.** The construction of the plant depends on the approval of the sale of Title I corn by the USDA Commodity Credit Corporation to Seprod.

KOREA—The Korea Dairy-Beef Co., Ltd. (KDBC), announced a $7 million loan agreement with the International Development Agency (IDA) to **develop Korea's dairy and beef industries.** Contact Koo Young Hwang, Executive Vice President. Korea Dairy Beef Co., Ltd., Kunsul Bldg., Rm. 501, 7 1-ka, Myongdong, Chung-ku, Seoul.

KOREA—The Seoul City Government is planning a **municipal waterworks expansion project.** The city government hopes to start purchasing equipment and materials about September 1971.

KOREA—Korea's Ministry of Science & Technology and the Office of Forestry are planning to establish a national **forestry training center** with a $1 million UNDP grant. UNDP headquarters should be consulted for procurement and related information. UNDP, 866 United Nations Plaza. United Nations, New York, N.Y. 10017.

KOREA—The Ministry of Construction plans to complete by 1973 the **Yungdong Highway Project,** involving the 219 km. Seoul-Kangnung Highway and the 100 km. east coast link between Samchok and Sokcho. A complementary feasibility study is now nearing completion.

NETHERLANDS—The firm N.V. Euromin of Rotterdam is planning to construct a $100 million **petroleum refinery** in either Rotterdam or Amsterdam. Contact Mr. Lindeman, Mabanaft, Hamburg, West Germany, for further information.

PERU—The Ministry of Transport and Communications announced that the Council of Ministers approved plans to conduct a feasibility study for an **underground rapid transit system for Lima and Callao.** Construction contracts will be let following completion of the studies and will be based on public international tenders.

PHILIPPINES—The American Embassy in Manila compiled a list of multi-million dollar private investment projects which are now being developed, or which are planned for the near future. The areas covered are **container ports, oil refineries, aluminum and copper smelters, shoe manufacturing, pulp and paper manufacturing, tire manufacturing, and a petrochemical complex.** A copy of this report can be obtained from the Dept. of Commerce, Business Opportunities Staff, 580-BOS, Washington, D.C. 20230.

PHILIPPINES—The Chemical Industries of the Philippines, Inc. is planning to **establish a sodium tripolyphosphate (STPP) plant** in Taguig, Rizal, Philippines. Contact Antonio M. Garcia, Vice President and Gen. Mgr. of Chemical Industries of the Philippines, Inc., Sikatuna Bldg., Ayala Ave., Makati, Rizal.

THAILAND—A hydroelectric and irrigation multi-purpose dam is being planned at Quai Yai, Sri Sawat District, Karnjanaburi Province, Thailand. The dam is scheduled for completion in 1977. American contractors and suppliers of materials and equipment should write to: Kasem Chatikavanick, Gen. Mgr., Electricity Generating Authority of Thailand, Bangkruav, Nonthaburi, Bangkok, or to the firm doing the design work: Electric Power Development Corp., Ltd., 1, 1-chome, Maru Nouchi, Chiyoda-ku, Tokyo.

New Trade Lists

The Bureau of International Commerce published the following Trade Lists. Copies may be obtained by firms domiciled in the United States from BIC-924-TL, Department of Commerce, Washington, D.C. 20230, and from Commerce Field Offices. The price is $1 per list for each separate country.

Israel—Lebanon

No. *Title*

01000—Farm products; mining firms
20000—Food, kindred products; tobacco, tobacco products
22000—Textile industry
23000—Apparel, accessories; miscellaneous fabricated textile products; personal leather products
24000—Lumber, wood products; furniture, fixtures
26000—Pulp, paper, paperboard mill products; converted paper, paperboard products; building paper, boards; printing, publishing industries
28000—Chemicals, plastics, related products
29000—Petroleum, petroleum products
30000—Rubber, rubber products; leather, leather products
32000—Stone, clay, glass products
33000—Primary metals, metal products, ferrous, nonferrous
34000—Fabricated metal products
35000—Machinery, nonelectrical
36000—Electrical machinery, equipment, supplies
37000—Transportation equipment, parts, accessories
38000—Professional, scientific instruments, controlling devices; photographic equipment, supplies; watches, clocks; jewelry, silverware, plated ware
39000—Musical instruments; toys, amusements, sporting, athletic goods; office, artists' materials; costume jewelry; novelties, notions; miscellaneous manufactured products

South Vietnam

No. *Title*

01000—Farm, forestry products
20000—Food, kindred products; tobacco, tobacco products
22000—Textile industry
24000—Lumber, wood products; furniture, fixtures
26000—Pulp, paper, paperboard mill products; converted paper, paperboard products; building paper, boards; printing, publishing
28000—Chemicals, plastics, related products
32000—Stone, clay, glass products
33000—Primary metals, metal products, ferrous, nonferrous
34000—Fabricated metal products
35000—Machinery, nonelectrical
36000—Electrical machinery, equipment, supplies
37000—Transportation equipment, parts, accessories
38000—Professional, scientific instruments, controlling devices; photographic equipment, supplies; watches, clocks; jewelery, silverware, plated ware
39000—Musical instruments; toys, amusements, sporting, athletic goods; office, artists' materials; novelties, notions; miscellaneous manufactured products

Venezuela

No. *Title*

01000—Farm, forestry, fishery products; mining companies
20000—Food, kindred products; tobacco
22000—Textile industry
23000—Apparel, accessories; miscellaneous fabricated textile products
24000—Lumber, wood products; furniture, fixtures
26000—Pulp, paper, paperboard mill products; converted paper, paperboard products
27000—Printing, publishing industries
28100—Industrial chemicals
28200—Plastics materials, products
28300—Drugs; soap, toilet goods
28500—Paints, allied products; gum, wood chemicals
28700—Agricultural chemicals; miscellaneous chemical products
29000—Petroleum, petroleum products
30000—Rubber, leather products
32000—Stone, clay, glass products
33000—Primary metals, metal products
34100—Metal cans; cutlery, hand tools, general hardware; heating apparatus, plumbing fixtures
34400—Fabricated structural metal products; industrial fasteners; metal stampings
35100—Engines, turbines
35200—Farm machinery, equipment
35300—Construction, mining, materials handling machinery, equipment
35400—Machine tools; metalworking machinery
35500—Food products machinery; miscellaneous special industrial machinery, nonelectrical
35520—Textile industry machinery; woodworking, paper, printing industries machinery
35600—General industrial machinery, equipment, nonelectrical
35700—Office, computing, accounting machines; service industry machinery, miscellaneous nonelectrical machinery
36100—Electrical test, distributing equipment; electrical industrial apparatus
36300—Household appliances; electronic equipment for home entertainment; phonograph records, tapes
36400—Electric lighting, wiring equipment
36600—Commercial, industrial, military communication equipment
36700—Electronic components
37000—Transportation equipment, parts, accessories
38100—Professional, scientific instruments, controlling devices
38600—Photographic equipment, supplies; watches, clocks; jewelry, silverware, plated ware
39300—Musical instruments; toys, amusements, sporting goods
39500—Pens, pencils, other office, artists' materials; costume jewelry; novelties, notions; miscellaneous manufactured products

Visiting Buyers And Officials

BELGIUM—J. Dupre, Dir., H. Vandeberg, Asst. Dir., E. Cassiers, Provincial Deputy, F. Morrens, Provincial Deputy, Economic Council of the Province of Antwerp, 12 Koningin Elisabethlei, Antwerp, **interested in U.S. investment in the province of Antwerp.** May 10 via New York for 13 days. Itinerary: New York, c/o Hotel Americana, 7th Ave. between 52 & 53 Sts.; New Orleans, c/o Hotel Pontchartrain, 2031 St. Charles Ave.; Houston, c/o The Warwick Hotel, 5701 Main St.; Chicago, c/o Hotel Ambassador, State St. & Goethe.

CHILE—Sergio Gomez D., Independencia 1780, Santiago, and Jose E. Alvarez P., Vivaceta 2999, Santiago, **interested in buying, renting, leasing one or more gasoline service stations in the U.S., request technical information.** May 9 via Los Angeles for 18 days. c/o Park Sheraton Hotel, 7th Ave. & W. 56th St., New York, N.Y. 10019. Itinerary: Los Angeles, New York, others. WTD in prep.

FRANCE—A. Mardegan, Pres., Comite Industriel d'Action Economique de la Region de Toulouse, 6 rue Deville, Toulouse, **interested in discussing investment opportunities in Toulouse region.** May 17 via New York through May 21. c/o DGA International. Inc., 1225 19th St. NW., Washington, D.C. 20036. Itinerary: New York, Washington, others as necessary.

TAIWAN—Chiu-tsang Hsu, Pres., Taishin Co. Ltd., 12 Lane 801, Cheng Teh Rd., Taipei, **interested in importing U.S. plastic raw materials, medicinal chemicals machinery for frozen food industry and in exporting canned foods, fish meal, agricultural products, and requesting technical information on manufacturing process of frozen concentrated fruit juice and frozen sea foods.** May 8 via Honolulu for 20 days. c/o Commerce Field Offices en route. Itinerary: May 8-11, Honolulu; May 16-20, Los Angeles; May 21-23, San Francisco; May 24-26, Miami; May 27-30, New York. WTD in prep.

THAILAND — Vongvuthi Vuthinantha, Man. Dir., Thailand Carpet Manufacturing Co., Ltd., 544/9-10 Ploenchit Rd., Bangkok, **interested in importing U.S. raw materials, machinery and equipment for carpet manufacturing, underlay, polypropylene backing materials; plastic marble, requesting technical data on material handling, plant conveyor system, transportation devices for carpet handling and know-how on plastic marble.** May 7 via Boston for 4 weeks. c/o Statler Hilton Hotel, Park Square, Boston, Mass. 02117. Itinerary: Boston; New York; Detroit; May 17-18, Milwaukee; May 19-21, Chicago, May 21-28, Chattanooga; May 29-June 5, Los Angeles; June 7-8, San Fran. WTD 1/69.

International Business Reports

French Law on Commercial Companies. **Commerce Clearing House, Inc., 345 pages. $12.50.**

American businessmen, consultants and attorneys with interests in France may find this soft-cover book helpful. It presents side-by-side the French texts of the basic 1966 law and subsequent decrees, as of Jan. 1, concerning commercial companies, and full translations. The law and decrees define the various forms companies may take, and specify the requirements they must satisfy with reference to organization, audit, merger, liquidation, etc. An introduction summarizes the principal provisions in the law.

Write: Commerce Clearing House, Inc., 4020 W. Glenlake Ave., Chicago, Ill. 60646.

The Stand-By Arrangements of the International Monetary Fund. **By Joseph Gold. Published by the IMF. 295pp. $4.**

This study examines the formal, legal and financial characteristics of stand-by arrangements. It describes the relation of this novel technique to the law and policies governing the use by members of the Fund's financial resources. Illustrative stand-by documents, consisting of the stand-by arrangement itself and the member's letter of intent which is annexed to it, are provided and analyzed.

Write: International Monetary Fund, 19th and H Sts., NW., Washington, D.C. 20431.

Statistical Yearbook, 1969. **Published by UNESCO. 666 pp. $33.**

The seventh issue of this publication incorporates data provided by over 200 countries and territories on laws, regulations and statistics relating to educational, scientific and cultural life and activities. Subjects covered include population, education, science and technology, libraries and museums, book production, newspapers and other periodicals, paper consumption, film and cinema, radio broadcasting, television and cultural expenditure.

Write: UNIPUB, Inc., P.O. Box 433, New York, N.Y. 10016.

Economic Survey of Switzerland. **51 pp.** ***Economic Survey of Norway.*** **67 pp. Published by the Organization for Economic Cooperation and Development. 80 cents each.**

Part I of the Switzerland Survey considers recent developments in demand and supply, the relatively good price performance enjoyed until spring 1970, the reasons for the present price acceleration, and the deterioration in the current balance of payments. Part II reviews the authorities' policy interventions. Part III discusses prospective developments.

The Survey on Norway also covers recent trends, economic policy, and prospects and conclusions, as well as an annex on the institutional framework of incomes policy.

Write: OECD Publications Center, 1750 Pennsylvania Ave., NW., Washington, D.C. 20006.

Top 300 Companies: 1963-64—1967-68. **Published by the Economic and Scientific Research Foundation, Federation House, New Delhi. 320 pp. $5.35.**

In this survey, fourth in the series, 300 of India's top companies are ranked on the basis of their sales in the Indian fiscal year Apr. 1, 1967-Mar. 31, 1968. The companies' operations are analyzed for the five-year period from 1963-64 to 1967-68. The publication includes a special section reviewing the operating results of 28 leading Indian public sector companies. Financial data on 50 major international firms are provided.

Apart from a general assessment of the top 300 companies in the five-year period, over 50 statistical tables set forth data in three main areas: inventory holdings of the companies in relation to sales and assets, and finished goods in relation to sales and inventory; financing of inventory and different types of debts contracted by companies in relation to their equity; and profitability in relation to sales and capital employed.

Write: Economic and Scientific Research Foundation, Federation House, Bazar Marg, New Delhi-1.

Calendar For World Traders

May 24 — Charlotte — Export-import symposium, Charlotte Chamber of Commerce.

May 25—Gardena, Cal.—Export market seminar, Gardena Valley Chamber of Commerce.

May 25—Memphis—Export workshop, National Bank of Commerce.

May 26—Denver—Foreign Credit Interchange Bureau roundtable conference on international credit problems, at NACM Credit Congress, Hilton Hotel.

May 26—St. Louis—County Rotary Club foreign trade luncheon, Schober's Restaurant.

May 26—Stratford, Conn.—Luncheon meeting of the Combination Export Managers Assn. of Connecticut, Mermaid Tavern, Stratford Motor Inn.

May 27 — Atlanta — Export seminar, Field Office, 10 a.m.

May 27—Kansas City—Export development seminar, Federal Bldg., 2-4 p.m.

June 4 — Meadville, Pa. — All-day business development conference, Holiday Inn, 9 a.m.

June 10—Atlanta—Export seminar, Field Office, 10 a.m.

June 10—Phoenix—Export workshop, Field Office, 10 a.m.-noon.

New Publications

When ordering any publication, indicate title and series designation, if indicated, and make checks or money orders payable to the Superintendent of Documents. Orders should be sent to the U.S. Department of Commerce, Washington D.C. 20230, or to any of its field offices.

DOMESTIC AND INTERNATIONAL BUSINESS

Bureau of International Commerce

Export control bulletin—supplement to Export control regulations. No. 41. April 16. 25¢.

International Marketing Information Service

Exhibitor's Export Market Guides

Japan needs air, water, and solid waste pollution-control equipment (IMIS 71-009). 4pp. 10¢.
Brazil needs U.S. printing, graphic arts, business, and computer equipment (IMIS 71-010). 6pp. 10¢.
Information storage, retrieval systems show strong sales potential in Germany (IMIS 70-011). 4pp. 10¢.
See good market in Japan for U.S. made avionics and ground support equipment (IMIS 71-014). 6pp. 10¢.

ECONOMIC AFFAIRS

Office of Business Economics

Survey of Current Business. April 1971. Vol. 51, No. 4. Annual subscription, including weekly statistical supplement, $9 ($3.75 more for foreign mailing). Single copy $1.

Bureau of the Census

Health information system-II (Report No. 12). March 1971. 312pp. $3.50. Reviews the status of the development and data analysis of the Health Information System, as of December 1970.

Congressional District Data

Connecticut (CDD-92-6). 4pp. 25¢.
Florida (CDD-92-7). 10pp. 25¢.
Rhode Island (CDD-92-36). 4pp. 25¢.
Wisconsin (CDD-92-45). 8pp. 25¢.

Construction and Housing

Sales of new one-family homes: February 1971 (C25-71-2). Annual subscription (including monthly, quarterly, and annual reports), $3. Single copy prices: monthly, 10¢; quarterly, 25¢; annual $1.
Value of new construction put in place: February 1971 (C30-71-2). 28pp. Annual subscription $1.50, including monthly and annual supplement. Single copy 10¢.
Authorized construction, Washington, D.C. area. March 1971 (C41-71-3). Annual subscription $1. Single copy 10¢.

Distribution and Services

Weekly retail sales. Estimated weekly sales of U.S. retail stores, week ending April 17 (CB 71-322). 2pp. 10¢.
Weekly retail sales. Estimated weekly sales of U.S. retail stores, week ending April 24 (CB 71-323). 2pp. 10¢.
Monthly retail trade report: January 1971 (BR-71-1). Sales and accounts receivable. Single copy 25¢.
Monthly department store sales in selected areas: February 1971 (BD-71-2). Annual subscription $1. Single copy 10¢.

Foreign Trade

U.S. waterborne exports and general imports: January 1971 (FT 985-71-1). 20pp. Annual subscription (FT 900, 975, 985, and 986 combined) $3. Single copy 10¢.
U.S. airborne exports and general imports: February 1971 (FT 986-71-2). 4pp. Annual subscription (FT 900, 975, 985, and 986 combined) $3. Single copy 10¢.
U.S. trade with Puerto Rico and U.S. possessions: December 1970 (FT 800). Annual subscription $2.50 (75¢ more for foreign mailing). Single copy 20¢.
Bunker fuels: February 1971 (FT 810-71-2). Annual subscription $1. Single copy 10¢.
Export and import merchandise: March 1971 (FT 900-71-3). Annual subscription (FT 900, 975, 985, and 986 combined) $3. Single copy 10¢.
Gold movements: March 1971 (FT 2402-71-3). Annual subscription $1. Single copy 10¢.
U.S. exports—schedule B commodity and country: December 1970 (FT 410). Annual subscription $33 ($8.25 more for foreign mailing). Single copy $2.75.

Geography

Use of address coding guides in geographic coding conference proceedings—case studies. 72pp. 70¢. This report is a summary of a conference on "Use of ACG's in Geographic Coding—Case Studies," held in Kansas City, Mo. on Nov. 19-20, 1970.

Industry

1967 Census of Manufactures

Each report contains detailed final statistics for an individual subject, such as size of establishment, capital expenditures, inventories, etc.
Type of organization (MC67(1)-3). 100pp. $1.

1967 Census of Mineral Industries

A separate report for each of 48 States and a report for Maryland, Delaware, and the District of Columbia combined, provide statistics for the State as a whole with comparative figures for earlier years. This series is now complete.
Arizona (MIC67(2)-3). 20pp. 30¢.
Arkansas (MIC67(2)-4). 24pp. 35¢
Idaho (MIC67(2)-11). 20pp. 30¢.
Michigan (MIC67(2)-21). 24pp. 35¢.
Missouri (MIC67(2)-24). 24pp. 35¢.
South Dakota (MIC67(2)-40). 20pp. 30¢.
Washington (MIC67(2)-46). 20pp. 30¢.
Wyoming (MIC67(2)-49). 24pp. 35¢.

Population

Fertility indicators: 1970 (Series P-23, No. 36). 56pp. Single copy 60¢.
Estimates of the population of the United States to March 1, 1971 (Series P-25, No. 458). 2pp. Single copy 5¢.
Population of Tunisia—estimates and projections: 1967-2000 (Series P-96, No. 3). 100pp. $1.

SCIENCE AND TECHNOLOGY

National Oceanic and Atmospheric Administration

Monthly weather review. April 1971. Vol. 99, No. 4. Annual subscription $7.50 ($2 more for foreign mailing). Single copy 65¢.
World weather program—a plan for fiscal year 1972. April 1971. 36pp. 50¢. Describes the U.S. effort to bring about an improvement in the national weather services through advances in science and technology and an expanded program of international cooperation.
NOAA. April 1971. Vol. 1, No. 2. Annual subscription $3 (75¢ more for foreign mailing). Single copy 75¢.
Federal plan for marine environmental prediction: Fiscal year 1972. 68pp. 65¢. The basic MAREP service is made up of observational or monitoring networks, analysis and forecast centers, telecommunications services, and other facilities maintained by the Federal participants.

Environmental Data Service

Ionospheric data (FA-319). March 1971. Single copy $1. Collection of the summary monthly data from the worldwide network of observatory ionospheric vertical sounding stations as reported to World Data Center A, Upper Atmosphere Geophysics, Boulder, Colorado.

Environmental Research Laboratories

Plotter subroutine for meteorological flight path (PATH)—(NOAA TR ERL 139 APCL 9). (Revised.) 40pp. 35¢.
Plotter subroutine for meteorological straight line flight data (SLENDER)—(NOAA TR ERL 140-APCL 10). (Revised.) 54pp. 55¢.
Techniques of high spatial density magnetic profiling and mapping (NOAA TR ERL 201-ESL 15). 30pp. 35¢.
Computer subroutine for presenting meteorological flight data on the printer (CURVPT) (NOAA TR ERL 199-APCL 17). 28pp. 35¢.

National Marine Fisheries Service

Fisheries of the United States, 1970. (NOAA CFS-5600). 96pp. $1.

National Ocean Survey

Preliminary determination of epicenters. Monthly listings, January 1971. 12pp. Annual subscription $1.50 (50¢ more for foreign mailing). Single copy 15¢. These reports list the approximate locations of earthquakes anywhere in the world.

National Weather Service

Marine Weather Service Chart: Morgan City, La. to Brownsville, Tex. (Not to be used for navigation.) 12" x 19". 15¢.

National Bureau of Standards

Technical news bulletin. April 1971. Vol. 55, No. 4. Annual subscription $3 ($1 more for foreign mailing). Single copy 30¢.

Strength of masonry walls under compressive and transverse loads (Bldg. Sci. Ser. 34). 74pp. 70¢. Ninety walls of 10 different types of masonry construction were tested under various combinations of vertical and transverse load.

Package quantities of instant nonfat dry milk (PS 37-70). 7pp. 10¢. This Standard covers package quantities of instant nonfat dry milk based on quart equivalents, within the range of 3 to 20 quarts.

Package quantities of instant mashed potatoes (PS 41-70). 7pp. 10¢. Covers a range of package quantities based on servings, and establishes the definition of a serving based on the weight of the reconstituted product.

Editorial format for Voluntary Product Standards (PS 0-70). 13pp. 15¢. Intended to assist individuals, organizations, and agencies which are concerned with the writing of standards.

Standard reference materials: National Bureau of Standards—U.S. Steel Corporation joint program for determining oxygen and nitrogen in steel (Spec. Publ. 260-26). 40pp. 50¢. A new Standard Reference Material (SRM), a maraging steel, for oxygen. This SRM has the lowest oxygen concentration (4.5 ppm) of any steel standard yet issued by NBS.

Hydraulic research in the United States, 1970 including contributions from Canadian Laboratories (NBS Spec. Publ. 346). 354pp. $2.50. Current and recently concluded research projects in hydraulics and hydrodynamics for the years 1969-70 are summarized. Projects from more than 250 university, industrial, state and federal government laboratories in the United States and Canada are reported.

Reactor radiation division: Annual progress report for the period ending Oct. 31, 1970 (Tech. Note 567). 66pp. 70¢.

On computer performance measurement programming—measuring indexing adroitness by isolating complex primes (Tech. Note 572). 26pp. 35¢. Describes a test program for a computer. The first half of the text describes the test in general terms; the second half presents an analysis of pertinent details.

National Technical Information Service

Order the following reports on Government-sponsored research from: National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151. Make check or money order payable to National Technical Information Service. Price for each document is $3 (microfiche 95¢) unless otherwise specified.

The National Technical Information Service (NTIS) has compiled a list of reports that, during the past several months, have been of high interest to our customers. These reports are listed by subject area. To obtain a copy of this list, request Fast Announcement 71-180 (free from NTIS).

Computers in Japan (AD-720 843). By Univ. of Hawaii for the Air Force, 26pp. Presents a critical examination of the Japanese computer industry. Current projects and practices are discussed.

Corporate author headings (PB-198 275). Prepared in accordance with an agreement among COSATI, the National Technical Information Service (NTIS), and the Defense Documentation Center (DDC). Paper copy $20, 850pp. Corporate author headings represents a coordinated effort to facilitate the exchange of scientific and technical cataloging information.

Reports presenting data on Federal outlays in each State, the District of Columbia, and Trusts and Territories for fiscal year 1970 are available. Reports give dollar outlays of the Federal Government by agency, program, and influence activities for every county of the United States and for each city where the population exceeds 25,000. Data are summarized at state and national levels by agency, program, Federal influence activities, and budget function. A State Highlights section ranks the state in terms of population, poverty, and Federal funds by individual agencies and by total Federal outlay within the State. To obtain ordering information, request copy of Fast Announcement 71-196 (free) from the National Technical Information Service.

Mobile/portable ports 1990 (AD-721 011). Sixteenth Ad Hoc Working Group, U.S. Army Advanced Material Concepts Agency, Alexandria, Va. 46pp. Evaluates the need for mobile/portable ports and explores concepts of mobile/portable ports that would be practical to assemble, transport, construct, and operate in the 1990's.

The Federal R&D plan for air-pollution control by combustion-process modification (PB-198 066). Battelle Memorial Institute, Columbus, Ohio, for the Environmental Protection Agency. Paper copy $6 (microfiche 95¢), 252pp. Presents a five-year plan directed to control of pollutant emissions from stationary and vehicular combustion sources through modification of combustion processes.

Citizen and business participation in urban affairs—a bibliography (PB-196 888). By HUD Library, Washington. 89pp. Provides information on ways that citizens can involve themselves in urban affairs.

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Vehicle deterioration accident investigation (PB-197 956). Univ. of Rochester for the National Highway Traffic Safety Admin. 214pp. Tries to determine extent to which defects, malfunctions, and subsystem maladjustments cause crashes.

In-process manufacturing quality control (AD-720 098). MIT for the Advanced Research Project Agency, Wash. 558pp. $6 paper. Focuses on constructing operating rules for allocation of inspection effort along a production line in which inspection and repair are integral parts of the line.

Cargo boom study (AD-715 754). General Electric Co. for the U.S. Army. 225pp. Develops a cybernetic anthropomorphous machine system (CAMS) cargo boom concept.

Lake eutrophication — water pollution causes, effects and control (PB-196 479). By the U. of Minnesota for the Office of Water Resources Research. 69pp. Papers presented at a symposium held at Detroit Lakes, Minn., Aug. 18-19, 1969.

Strength and creep of laminated plastics (N71-15176). Translated from the Russian for NASA and the National Science Foundation. 250pp. Studies mechanical characteristics of laminated plastics (plastic glasses and DSP plastics) and wood subjected to compression, tension and bending in the case of prolonged action of constant load and loading at constant rates.

Urban air pollution damage functions: theory and management (PB-197 668). By Univ. of California at Riverside for the National Air Pollution Control Admin. 116pp. Investigates the urban air pollution damage function regarding the market price of residential property.

Comprehensive study of specified air pollution sources to assess the economic effects of air quality standards, Vol. I (PB-197 647). By The Research Triangle Institute, N.C. for the Environmental Protection Assn. 409pp. $6.

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A survey of fuel and energy information sources, Vol. I (PB-197 386). By Mitre Corp. for the National Air Pollution Control Admin. 298pp.

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Pilot model for a management information system on work unit information (AD-718 311). Naval Research Lab. 74pp. Discusses defects in current forms and procedures, design goals of an integrated system, and steps toward implementation.

Federal plan for air pollution control meteorological service to support federal, state and local air pollution control agencies (COM-71 00200). Federal Coordinator for Meteorological Services and Supporting Research, Dept. of Commerce. 27pp.

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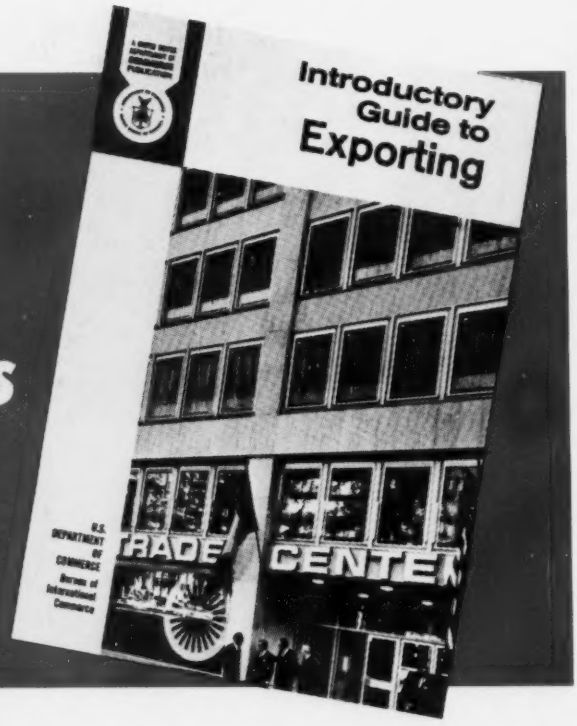

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